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Birds of California

Species Accounts

M - Z

1930 - 1936

E L Sumner, Jr.

1

Marila affinis

5/8/31 Los Banos Duck Refuge, Los Banos, Merced Co. Calif. Near 2nd Rittal camp. One seen among a flock of mud hens and a scattering of cinnamon teal and ruddies.

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Larus affinis ?

Feb 28, 1932 Dumbarton Bridge (Alameda-San Mateo Cos.), San Francisco Bay, Calif. Just off from the east end of the bridge proper, on the approach; time, about 6:15 P.M., dusk. For a number of days now I have seen flocks of 50 or so of these birds resting on the shallow water about 100 yds from the bridge. Today, as I drove by (going east) some of the birds were flying either to or from their feeding grounds (suppose, it being the night hour for that) in my direction and parallel to the bridge. A particular detachment of about seven birds was steering a course nearly parallel with mine and I timed their speed; it was 48-49 miles an hour according to my speedometer. There was nothing to indicate that the birds were alarmed or that they were flying at anything more than their normal speed; neither was there any appreciable wind at

the time, the water being calm and without ripples, or at least ripples. Since I "drive by my speedometer" at all times, I know pretty certainly what it accuracy is; in the first place the speedometer (and car) was new last April; secondly, I know that whereas it may register from 1 to 2 miles less than actual speed it certainly doesn't register more than 1 mile above actual speed, and I think it records it accurately. I refer to the speed of 50 m. per hr. in this.

"Return" of a sort"

Madera amer scaup 1

Widgeon

2/28/31 Los Banos Game Refuge, L. Banos, Merced Co. Calif. Ruth Lake. After dark - a considerable number of undigeons heard giving their piping call.

3/1/31 Same place. 3:30 About 102 (see census) mostly paired, counted on Ruth Lake. They are mostly, if not entirely, paired. The flock keeps up an unceasing piping while at feeds. Many are "tipping" in shallow water, some are merely swimming idly in deeper water, but nearly a third are going up with the mudhens - with which they seem to mingle freely - upon the sloping grass covered bank by the water's edge, where they are pulling grass.

3/16/31 Same place. Some or all of these still there. Was riding by and didn't have time to count.

~~3/26/31 L. B. D. Ref. by 3 l. tower - as~~

Mareca americana ①

5/8/31 Los Banos Duck Refuge, Los Banos, Merced Co. Calif. near 3L-tower. This must be the height of the breeding season for nearly every ♀ is accompanied by a ♂. There seems to be no hard and fast pairing, though, for different ♂s were seen to approach the various ♀s indiscriminately. Their "approach" consisted in several successive grabs at the ♀s tail back, or curing feathers after a sudden little rush toward her. In every case during the brief time that I watched the ♀ kept on swimming and did not allow a closer approach than that.

5/23/31 L.B.D.R. S. of 3L. tower. ♀ flushed from vicinity of nest by Donald McLean and party of people from Fresno. McLean said there was a definite trail made by the bird from nest to water, and Tyler showed me some of the down from the nest.

Melospiza melodia
santae crucis

1.

June 7, 1937. See under Aphelocoma p. 4-5 for circumstantial evidence indicating that a gray mockbird sangsparrow nest.

Mimus polyg leucopterus

3/26/31 Hauffman Ranch, north of Los Banos Duck Refuge, Merced Co. Calif. Along Mud Slough. 3 birds sitting within 50 ft of one another on a fence post and "trading places" occasionally, i.e. one would fly up and take a seat on the post where the other had just left. This did not look like fighting and from their actions it would seem that they had not yet begun to nest.

12/2/31 Panoramic Way, about 500 ft. south of the Coliseum, Berkeley Calif. Saw one of these fly into a deciduous tree (no leaves) growing in someone's yard and perch there for a moment. When we stopped the car and got out it flew across the yard and out of sight. It made no sound, but the two white patches on the wings, seen in flight, and the slender build with long tail, were unmistakable.

Nethion carolinense

3/26/31 Los Banos Duck Refuge, Los Banos, Merced Co. Calif. A pair seen by Donald McLean in vicinity of Mud Slough s. of Hut near 3 l. tower.

3/29/31 L.B.D.R. A pair – headless – taken from Bubo nest s. of main e. and w. rd (See under Bubo).

6/1/31 L.B.D.R. w. of 3 l. towers. A very hard evening wind was blowing and when I approached on the windward side of a group of ducks they were unable to rise (except by rising towards me which they were afraid to do). Instead, those on land tried to flap and waddle to water, and those in the water tried to swim away. I nearly caught several, getting within 4-5 ft before they got into deep water. One ♂ teal, trying to rise diagonally into the wind from the water, was blown square into a ♀ which was just swimming away from shore so that it looked as if he had made a rush to attack her. Pelicans, too, found it hard to fly – they tried to soar diagonally to the wind 3 ft above the water but lost altitude and finally came down. I almost caught one, but he finally launched into the air successfully.

Numenius hudsonicus

April 27, 1935, Alvarado, Calif. Just at the north edge of this small town, in fact immediately adjacent to a large garage there, I saw today a number (perhaps 20) curlews feeding in the large level ~~pt~~ newly plowed field there. They were about 100 ft from the highway. Dumbarton Bridge and the Bay at its nearest point are about two miles, airline, from this field.

Nycticorax nycticorax

5/27/30. About 3 mi. S. of Gustine near main high way – mixed colony Nycti corax, Ardea egretta & A. herodias, see notes under the other two. One bird seen perched in top of cotton wood at heronry with head held way down to level of feet, motionless with large object sticking out of bill. Object proved to be a full grown Thomomys (Irrigation under way in adjacent alfalfa field). Bird presently moved head and swallowed gopher (pointing head first down gullet) by degrees as an owl does. Gopher went down only with difficulty, the tail persisting for some time; it made a very large bulge in the bird's neck as it went down.

5/21/31 L.B.D.R. see under Butorides p. 1. for note on daymoon under a culvert.

6/11/31 L.B.D.R. by "Coyote pond", s. side of Refuge. 3:15 (17 m.) first lightening of eastern horizon, 4 A.M. light enough to see to drive on dirt roads, 4:32 light enough to use binoculars at all distances – at this time the bl. crowned which had been feeding near a gr. blue, after one mistaken shift down to the other

end of the pond left for good, flying away over the flats toward Mud Slough.

9/19/31 2861 Van Buren St. (Mrs. Vira Scott), Alameda, Calif. Trouble is brewing over the heads of a small colony (15-20) of night herons similar to that in the San Bruno affair (See Grinnell-Farley of C.F.&G. correspondence of about a month ago). In this case the herons are clinging to a last remnant of what was formerly a good sized roosting area. With the sale of the old Cohen Estate (nearly) some years ago, the eucalyptus grove (and I suppose cypresses as well) which had furnished roosting and nesting sites for many of the herons of the Alameda estuary was cut down to make way for the building of houses. Some of the herons removed to the cypresses of Lincoln park (also nearby), where Mrs. Scott thinks, they were shot by the city police on the grounds that they constituted a nuisance. Others, and these concern us — used a certain large and thickly foliaged bay tree (Umbellularia) in Mrs. Scott's

front yard (and a very small yard it is), from then until now. She complains that they so scatter the entire yard with their droppings and especially beneath the shady bay tree, that she cannot take friends out into the yard or even keep her car there as a result. Even the front and back steps are spattered. I noticed. The gold fish pond beneath the tree has recently suffered too, having lost 30 out of 100 goldfish, she said, with resulting unhappiness in the surviving. This she thinks is the work of one or two young birds — the birds nest in this same tree, one or two nests per year — and I think this must be so; at least, not more than one or two individuals can be concerned for otherwise there would be no surviving goldfish after a few nights, for the pool is quite shallow.

There are two cypress trees and one eucalyptus also in the yard which seems to be used by the herons as vantage points, judging from

the white washing below. However, none of these trees offers the dense cover which the bay tree affords, and consequently, it seems, are not used for day roosting.

Mrs. Scott says the herons are silent all day until ~~about 4 P.M.~~ late afternoon, when they often become restless and fly about squawking; in the evening, or before, they leave for their fishing in the estuary (mine at Los Banos came out just at dusk, see notes under Butes and elsewhere). They return from their fishing about 4 A.M. just as it begins to get light and make sleeping difficult as they move about ~~the~~ squawking, in preparation for the day's rest. She says the Alameda herons are well known as a colony and have been written up somewhere (~~audubon society, perhaps~~; ~~or~~ "the gull?").

o, in
ndor, 2, (1900)
10-12.

The birds payed no attention to me so long as I merely walked about on the ground, but as I gained the first fork of the tree, sit up (the tree is immense!) they

Nycticorax nycticorax

squawked and flapped away one after another — and did not return during the short time that I remained on the premises.

9/30/31 I should have written these notes earlier. Since about 9/22/31 I have had three alarm clocks tied up in the bay tree and set so that they went off at intervals of ½ hr to 1½ or 2 hours depending upon the time of day. On account of proximity of neighbors and similar reasons I have not set the first alarm in the morning earlier than 7 A.M. (It gets light about 5:30-6). From sunrise to 8:30 the three clocks go off at half hour intervals, and then about 8:30-9:15 I arrive, on my way to Berkeley, and set them so that they go off at hour intervals until 11:30-12. At first I came back again at 12:30 and reset them for the afternoon, but gave this up shortly for reasons indicated below. At about 8:30 P.M. (daily) I returned for the last time and usually set the clocks again for the following morning. Unfortunately I never was able to arrive enough time, or get there early

enough, to actually see the effects upon the herons of the clocks. Once I waited 15 minutes (at about 9:30) until one of the clocks which I had just set for that interval, should go off, while the herons, which had left at the disturbance made by letting the clock down out of the tree, stood in the tops of one of the nearby cypresses and refused to return. Presently the clock went off, with none of the herons back as yet. Perhaps 9 ~~night~~ morning out of 12 I found that 4-6 herons were roosting in the tree at the time of my first arrival (9 or 9:30), even though the clocks had gone off at 7, 7:30, and 8. I suppose that they had indeed been scared out at the ~~first~~ alarms, but had returned by ~~9:00~~ the time of my arrival, however, it is not certain. Perhaps they did not leave at all until the time when I arrived and scared the tree in letting down the clocks. I do think that some, at least, of the birds were driven

away by the clock, though, because from the occasion of their first use down to date there have never been more than 5-6 herons roosting, whereas previously there were at least 10-15. At any rate, at my arrival they would all leave, with protesting "woks", yet when I merely walked beneath the tree — this they were entirely accustomed to — but just so soon as I began running the fish cord through the pulleys which were fastened high in the tops of the tree. The sight or sound of these pulleys in motion plus the slight vibration, seemed enough to drive them out, and they would be all gone long before I got the first clock to the ground, indeed, I am sure that if a person were to merely run the cord back and forth through the pulleys each morning that he could drive the birds away. They would alight in the tops of near by trees, sometimes, and

other times, would pass overhead out of sight, but where they eventually went I don't know for I never had time to spend waiting for their return. The first day or two I found, at each visit that 4, 3, 2, or sometimes only 1 had come back among the last flown, but by about the third day I saw that they ~~no longer~~ returned after ~~the~~ my first visit (9 or 9:30) and so I gave up using the clocks in the afternoon; evidently they were learning to use new roosting places upon being disturbed, although as yet habit was too strong to make them go to the new places the first thing in the morning. Within the last 6 days or so, however, there have been no more than 6 and often less than 3 birds in the morning, which indicates that the others are using the new places more. At night (8-9:30) I have never seen or heard a heron near the tree. The last two or three mornings previous to this morning there was not a single heron in

very seldom

the tree at my first visit — whether they left at the 7-8:30 alarm series, or whether they never came to the tree at all to roost I don't know, but think the former. During the remainder of those days, also, they were in evidence only once or twice, when a single heron, and on another case two herons were flushed later in the A.M. This morning, at 9 A.M. (the last alarm having gone off about ~~7:45~~ 8) I found 5-6 herons present, to my surprise; I feared, in fact, that they were becoming familiar with the mysterious of alarm clocks and had been little disturbed by the early morning gongs: I threw a stick up into the tree, and they departed in great commotion and were not seen again all day. If a man were to throw a stick up at regular intervals, or on every occasion when the birds came to the tree, he wouldn't have to bother with pulleys or alarm clocks, but I can't spend my days beneath the heron tree throwing sticks so have to use the less efficient

clocks instead.

One thing I have noticed, that the herons seem not to use either the eucalyptus or the two cypresses most in since they have been forced out of the bay trees. I don't know where they do go, but it is certain that there have been none of the birds in the trees mentioned on the several occasions when I have walked about underneath looking for them.

10/2/31 Darkness at noon and found no herons. Mrs. Scott said that when she came to wind the clocks in the morning (= approximate time of my "first visit" for same purpose each P.M.) three herons flew out of the tree; she didn't know whether they had come back after the first (early morning) alarm or not = any more than do I each morning. At any rate they didn't come back at all that day, and when I climbed the cypresses, and threw many sticks up into the eucalyptus they proved to be not there either. Looks like success, or at least a

promise of it.

10/2/31 Arrived about 9 A.M. Not a sign of a heron anywhere — wonderful!

10/5/31 Have been away since Friday, having given Mrs. Scott instructions to set the clocks. Arrived last night and set the clocks for 6:30, 7:00, 7:30, and 8:00 this A.M. Arrived this A.M. at about 9 and there wasn't a heron in sight. Didn't bother to re-set the clocks.

10/6/31 Set the clocks last night for this A.M., same time as above, and upon arriving found no herons. Took the clocks home in the P.M.

10/7/31 9 A.M. No herons, although no clocks were present.

10/8/31 9 A.M. Ditto.

10/9/31 ~~At~~ No visit

10/10/31 About 3 P.M. Two herons flew out of the tree when I threw stones up! Set clocks for Sunday 10/11/31 A.M. at 6:30, 7:00, 7:30, 8.

10/11/31 Didn't go to tree until 8 P.M., so don't know whether or not the herons were there today. Set clocks for tomorrow A.M. as above.

19859

Nycticorax nycticorax

10/12/31 Mrs. Scott says in the A.M. one heron flew out. Didn't visit the place until late P.M. (Dark) myself.

10/13/31 Arrived at ~~10.~~ 9:30. Alarmclocks had gone off as usual. No herons present. This is another indication that the alarm clocks are efficacious.

10/14/31 As usual, only arrived at about 1 P.M. Two herons left.

10/15/31 10:30 - Two herons, as before. They were roosting over on the side of the tree next to the house, as far from the clocks as possible. I had to throw two stones into the tree before the first one would leave, and a third before the second bird flew. Set the clocks for 11, and 11:30

10/16/31 10:30 No herons about. The neighbors next door, who have lived there for about fifteen years (Mrs. Scott) say that no herons roosted there prior to about 5-6 years ago, when the trees of the Cohen estate were cut down.

Nycticorax nycticorax

At about that time they took to roosting at Lincoln Park in the cypresses that over hang the bleachers. Whenever there were ball games held there the people down below had a hard time. So somebody (police?) went out with shotguns and killed a number of them, the remainder, dwindling, some to take up quarters in Mrs. Scott's tree. These neighbors have counted 19 herons having the bay tree at times - and this is about the number I saw on the very first occasion. The neighbors have lost goldfish too, from the little pool in their back yard. One night, after morning, after the herons had been fishing in their pool, they found a fish with its tail nipped squarely off the base, in addition to the missing fish. This fish died shortly after. Several times early in the morning (about 5:30) he man found two of the herons standing

in the pool, and he threw potatoes at them to make them leave. Once, in leaving, they somehow got their wings tangled up in a wire which grows on the near by fence, so that he almost caught them. After a few mornings of chasing them like this they came back no more to his pool.

10/18/31 No clocks were set for this A.M., but never the less there were no herons when I came at 10:30.

10/19/31 no visits

10/20/31 No clocks had been set. At 11:30, consequently, 3 herons flew out when I threw sticks up. Did not set the clocks but when I returned at 4:15 there were no herons.

10/21/31 No clocks. One heron at 3:15 P.M.

10/22/31 Clocks taken away – weather rainy. No heron in A.M.

10/23/31 Steady rain – three herons in early afternoon

10/24/31 Clear weather – clocks still away. One heron at about 10:30 A.M. Since the rain the ground has become dark, with the dust laid, and this one heron

Nycticorax nycticorax.

roosting spot is conspicuously marked on the ground below by the droppings forming a white-washed circle about 1 ft. in diameter.

10/25/31 Rain again, with clearing off late in the afternoon. At about 1:30 (still raining) ~~second one had gone~~ visited the place but found no birds present.

10/26/31 Clear. One bird flushed from top, center, of tree.

10/27/31 One bird

10/28/31 No birds.

10/29/31 None in bay tree, but one discovered roosting in the fig tree

10/30/31 None anywhere

10/31/31 None anywhere.

11/1/31 One in bay tree again. Did not fly until I had thrown the stick up directly beneath it twice.

11/2/31 In bay tree

11/3/31 None about

11/4/31 No visit

11/5/31 2 birds

11/6/31 "

11/7/31 "

11/8/31 no birds

11/9/31 " "

11/10/31 didn't look

11/11/31 heron. It flew as I raised my arm to throw the stick the first time! and before I had made

any noise.

11/17/31 A period of rainy weather has intervened since the above, and when I went back today there were 3 herons, which left with reluctance (i.e. only after 2 or 3 shots had been thrown up).

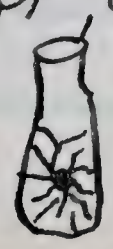
11/19/31 4 herons today. I suppose the one bird which I did not ever succeed in permanently keeping away is responsible for the return of these others. I am disgusted; also this tenacity is not going to be a factor for the survival of the species in this case at least!

12/1/31 Although I had made no visits, and there had been no disturbing of the birds all this time, still there were only three herons present today. As I walked about silently beneath the tree two of them craned their necks and stirred slightly. I aimed at the third (unconcerned) bird with the Benjamin air gun (a potent armament!) and let fly. The shot struck with a dull, somewhat hollow thump, and the bird flapped away seemingly unhurt. At the slight report the first two herons shifted to the top

of the tree, and when I shot at them and missed (it being difficult to see them in their new position) they flew away without uttering a note, nor did any return during the few minutes that I remained, nor were they to be found in the cypress or eucalyptus trees. The fig tree has now lost almost all its leaves, with the approach of winter and all the branches are exposed to view, yet Mrs Scott says that last Sunday (11/28/31) she saw a heron roosting ~~in~~ in ~~this~~ sometimes used by one of them, namely, top of ~~place~~ ~~in~~ the tree, although he was en plein jour to persons passing directly by at 35 ft — so much for the force of habit.

Later — this evening Mrs. Scott called and said that one of the neighbor's boys brought to her a newly killed heron which he found on the ground near by. It had a bloody spot on its breast.

Tak off to the Benjamin pump gun (which shoots hard enough to make a hole through one side of a milk bottle at 12 ft although the shot bounces back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12/2/31 The heron shot yesterday made into a skeleton for M.V.Z. (see my old ledger book for wt. etc). The shot had penetrated the abdomen and gone clear through the gizzard.

Today there were 5 herons present; four left when I shot at the first (actions as yesterday, but I don't know whether or not I hit him because I heard no sound of the impact), but the 5th did not leave until I threw a stick up. They alighted in a thick oak and in a tall nearly dead cypress tree on the other side of the block, and when I scared them by throwing a stick up at them in their new position they flew again, and disappeared, all five, in the direction of Lincoln Park.

12/3/31 There were only four herons today. They began to walk about uneasily, peering downward, as I stepped underneath the tree. I popped at one, whereupon it and one other hurriedly flapped away. One of these two kept up a continual squawking the whole time that it took to fly from there

over to the oak tree (previously mentioned) on the other side of the block, and I think this one must have been hit by the shot (although I have not heard any report since the first shot fired the other day. The other two birds did not fly until I threw a stick up into the tree. One of these two latter went to the oak, but the other went over toward Lincoln Park.

This was about 10:30 A.M. at about 1:30 P.M. I re visited the place. No herons were in the bay tree, but there was one in one of the two cypresses in the yard. I fired a shot at him (couldn't hear if it hit or not), and he left precipitately.

11/4/31 There were only two herons today! If each shot had killed one heron the daily reduction would be just what it has been (but calamitous, alas!). I got one of these two, I think (??), both left for Lincoln Park.

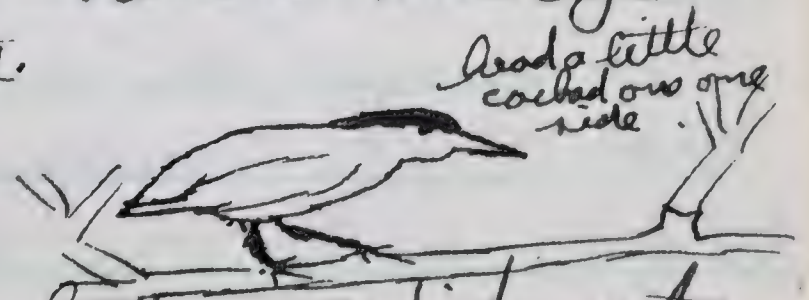
11/5/31 There were two birds today. One was wary, and flew even before I could raise my gun. The other was the exact reverse and did not fly until about 30 seconds after I shot at him. He may have

been a newcomer, at any rate, I hit no herons today.

12/6/31 Three herons today; don't know what to think. Again I missed and two herons left for the outlines; the third flew only after I had thrown up a stick

12/9/31 No visits for two days. Only one heron today. I think I missed, for it did not fly immediately when hit, and when it did fly it went only to the top of a cypress 120 ft. away. I took another shot at it from there, whereupon it left for Lincoln Park.

12/11/31 No, perhaps three herons present. One was roosting high up in the sun on the bare branches of the fig tree, and allowed us to pass back and forth beneath him without his changing his hunched up dejected pose. When I shot and missed, he became alarmed and took up a peculiar and characteristic nearly horizontal, rigid, position on the branch, such as I now recall having seen the herons take up in the bay tree.



When I went over to shoot at him again he left. I did not

(apparently) hit ~~the~~ any other herons either. Thisamement away to Lincoln Park, finally

12/12/31 One heron present. It leaped out of the big cuble Dugs, & healthily walking about underneath trying to locate it (they are very hard to see, and before) had made the slightest noise. They are learning to fear the gun aboight, and since it only makes a very slight noise I am inclined to think that it may be hitting them after all! but see below

12/14/31 Didnt visit the place yesterday because it rained too hard. Today there were three of the devils! They all three jumped out of the tree simultaneously at my first shot, indeed, one of them, the only one I saw, had been moving about nervously as I stood looking up trying to locate them. The birds certainly are more easily alarmed than they used to be. I think I may have hit one, but dont know for sure. Two hit in the oak and the third in the top of a tall cypress in the vacant lot adjacent to the yard where the oak tree is. These devils are harder than hell to see these

days; their grayish white undersparts are just about the color of the sky as seen from beneath the trees, and unless they move they are well nigh invisible. I note that these three sojourners in the contest of persistance between me and them have been perching for a good many weeks now in the top most parts of the tree and not down lower in the larger crotches where the majority of the herons used to roost. I don't know whether this is by design or not, but it does render them much harder to see, often a whole mass of foliage is between them and the ground.

Dec 19, 1931 No herons today. Marvelous!

Dec 30, 1931 No visits have been made since the 19th. Beginning about the 22nd it has rained almost constantly to date, in fact this is the wettest December in ~~25~~ 41 years according to the Weather Bureau. Today there were no herons, although there was a spot about ~~a18~~ inches in diam. on the ground beneath the tree in one place, which was spattered with

droppings. A japanese gardener was working about the yard, pruning vines along the side of the house among other things, and his presence near the tree may have induced the birds to leave. Mrs. Scott said he had not done any work on the tree itself, however, so that this would show the present state of alarm of the birds — if they did indeed leave because of him. The spatters beneath the tree were not much over 24 hours old (my visit was at 2 PM) and Mrs. Scott said that the neighbors next door had seen two herons in the tree a day or two before my visit. It seems, then, that they have not entirely given up using the tree to roost in.

Dec 31, 1931 No herons, nor any droppings on the ground.

Jan 2, 1932 There were a few spatters of white at one place beneath the tree today but I was unable to make out the resting heron until I threw a stick up, when it flopped into the air and disappeared. For a second or more after jumped leap into the air it flapped about in the foliage without making any

headway, indeed, had I shot at it with the gun, I should have been sure that I had wounded, and temporarily disabled it. The stub didn't go within six feet of it.

Jan 4, 1932 No herons present today, although there was a slight spatter of white below the place from which the bird had been flushed last time.

Jan 7, 1932 No herons today, either, and no further indications except for one single white spot, as though a heron might have perched in the tree and defecated just once.

Jan 10, 1932. No herons and no white wash spatters! Will wonders never cease!

Jan 16, 1932 No herons and no white wash; the war is over — this season at least.

Jan 19, 1932. Still no herons. I took pictures of ① the Lincoln School grounds (orange with leds (right across the street from the heron tree) ② the heron tree, and ③ the Ferndale Subdivision, which is now a booming real estate project that has obliterated the old Cohen Estate. A few live oaks scattered here and there was all that remained

2 photos

of the original scenery; the next was burn new houses, houses in process of construction (hammering, men at work etc), winding boulevards (Gilbert Rd.), and conspicuous Ferndale subdivision signs — no place any where for a heron; even the holes in the trees are cemented up!

Jan 30, 1932 No herons present; one single ~~small~~ white wash spatter in one place beneath the trees. "Ernie", (at Lillie's Garage), who owns a motor boat which he operates on the Alameda Estuary and vicinity, told me that most of the marsh land along the estuary had been drained and filled in to furnish sites for industrial plants. Around ~~the east~~ San Leandro Bay and East Creek Slough, he says, there are still some marshes, but even there they have made drainage canals so that they contain very little water, mostly at high tide. The marsh grass there is very short and furnishes no cover for

Nycticorax nycticorax

birds as large as night herons. There are no tules, or other growths of comparable height. A few duck may be seen in San Leandro Bay, but not many.

Mrs. Scott says that the herons did not come to her place until the subdivision of the Colen place. This is what the neighbor next door (see ante) had also said. His name, by the way, is Hesemeyer. Mrs. Scott said that the birds first used her trees only as roosting places. In the spring of 1927, however, there was a nest in one of the cypress trees of her place; at least two young were raised that year. In 1928 there was again a nest in the same place. In 1931 (i.e. this spring) a nest was again built in the cypress, but was torn down by a boy at Mrs. Scott's request, before any eggs were laid. Shortly after this a second nest was built and this was also torn down — when the eggs had reached an advanced stage of incubation. I noticed,

as also in 1929 and 1930 (see addenda in me over phone after Mrs. Scott had visited her notes).

in the way, that there are no nests in the bay tree, although Mrs. Scott thinks that there may have been one the year before.

It is of interest to record that according to Mrs. Scott, the herons, to the number of 19-21, used her trees to roost in all the year round except during the nesting season, when their numbers were reduced to a few pairs. The birds would dwindle away in June and July but would start to reappear again in August. This means, then, two things:

① The disappearance of the birds following my experiments must be due to the experiments and not to a natural tendency the birds to wander, apparently.

② The birds have a nesting ground — presumably — some where else. I wonder, then, if they have dispersed again to this breeding ~~territory~~ as a result of my disturbing activities. I can't think where any such breeding

but see my later notes on through Paris, where they still seemingly offer lie.

area can lie, however. According to my own observations, corroborated by statements made by "Ernie" (above) there is hardly any place left where they could nest. Maybe they don't ~~any more~~. As far as mere roosting ~~sights~~ sites go it is only about 2 miles, in a straight line, to Lake Merritt, where I have observed herons roosting ever since I first went boating there. The Lake Merritt herons roost on moored boats, the floating timber chain which marks the limits of the bird sanctuary, and probably in the adjacent trees as well, although I have not actually seen them at this last. Perhaps the Alameda herons have moved over there now.

By the way, a Mr. Polo, neighbor next door of Mrs. Scott on the north, counted 21 herons in Mrs. Scott's trees before I began the experiment. This tallies pretty well with Heermeyer's 19 and my 15-19 count.

Nycticorax nycticorax

Jan. 31, 1932 - Interview with Mrs. J. Earle Kelly. Came to Alameda in 1906, after the Kelly home in San Francisco had been destroyed by the fire. At that time there were some few houses on the east end of Alameda, by the Cohen estate, but not many. The Cohen place itself, as well as much of the surrounding country, was pasture land, that is, it was fields with live oaks scattered about, and, in the vicinity of the houses, introduced trees such as cypresses and acacias.

See Mrs Kelly's article Condor 22: 159

During these early days there was a row of very tall, old, acacias on Grand Ave opposite Mrs. Kelly's house. These acacias were used as roosts mostly (perhaps altogether, Mrs. Kelly thought), but were also used as nesting sites according to D. A. Cohen - see below. About 6 or 7 birds would be present at a time roosting in them, but not more. About 8 years ago these acacias were taken down by the city because of the danger which they constituted during periods of

high winds. During the last storm which the trees endured before being removed one or two were uprooted while others lost great branches.

The main stronghold of the birds was at all times in the tall cypresses on the Cohens property, however. Mrs. Kelly herself didn't get much opportunity to watch the birds in the Cohen cypresses, however, except from the outside of the Cohen fence.

During the years 1918-1920 the Alameda marshes still existed in much of their original extent. A small amount of filling in had been done, to be sure, but it was not until after 1920 that the filling in and draining began in real earnest (See statement of "Ernie" above).

When the birds went to Lincoln Park their presence annoyed the neighbors, not only in the manner described earlier (the "bleachers deluge") but also by their noise during the night. Mrs. Kelly said that on

several occasions she visited the Lincoln Park colony in the evening to verify the reports made by the residents of the noise, and she discovered that they did indeed, make a very disturbing bedlam (to use the word with which D. G. Cohen characterized it). There were evidently several nests with young at the time, for she could hear their squawking especially the clamor which they set up when the parents came in with food. In addition to the cries of the young there was the squawking of the adults and their flopping about in the foliage as they came and went, or shifted from one perch to another in the tree tops. D. Cohen also remarked on their noise, not only to me, verbally, but in Condor 2: 10-12

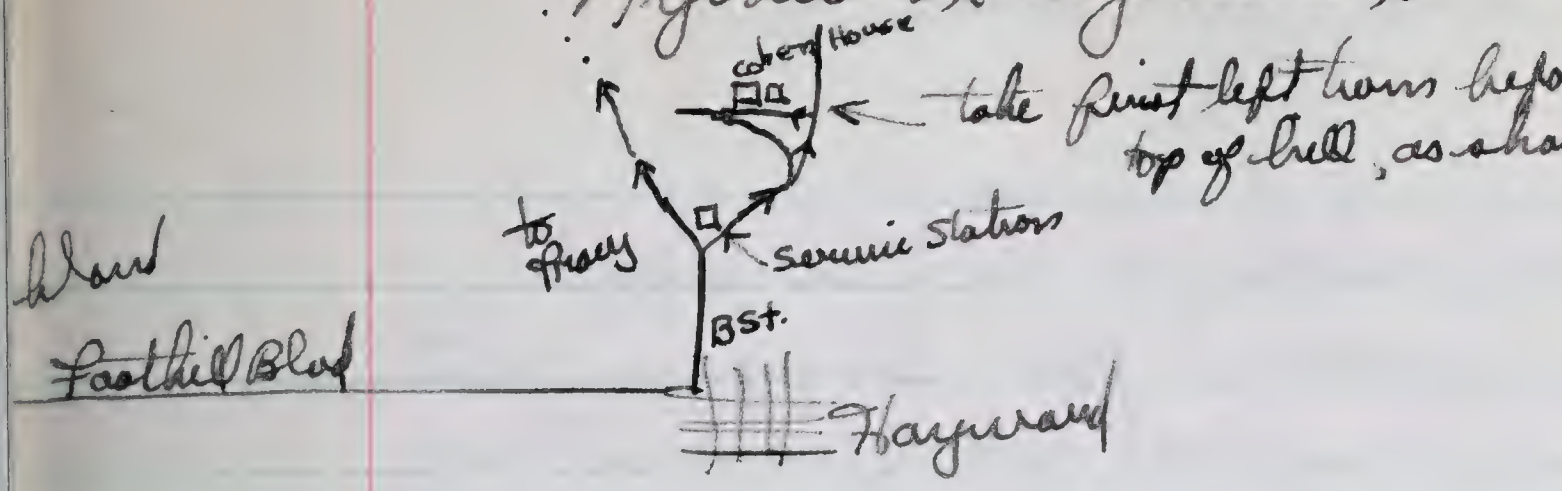
On December 5, 1931 Mrs. Kelly was at Lake Merritt with a bird class and as they stood between the duck pen and the water's edge they noticed a large crowd of black-crowned night herons standing

on the shore of the little island out in the bird sanctuary. The birds were bunched up, perfectly quiet, roosting. Mrs. Kelly remarked to her class at the time that this was a most unusual number — ~~they~~ she counted ~~about~~ 17 or more one time and some-one else counted 21 or 22 — and that she had never seen more than one or two ~~there~~ before. She was so impressed with the multitude of herons that two hours later (at 4:30 clock) she stopped there again, and found them standing just as before. It is interesting to note that the number seen — 17 to 22 — corresponds closely with the number which I have driven away from Mrs. Scott.

Same date as above. Interview with Donald A. Cohen (see his article on the herons, Condor 2: 10-12). Bay View Ave. Hayward, Calif.

Map is here given of location of his house:

Nycticorax nycticorax



Cohen's remarks about herons were much as given in his article; additional points are as follows:

When the article on herons was written (1900) Alameda was a small town, with fields and pastures and oak trees, but it was not really unsettled; there were quite a few houses scattered about.

1898 was the date when the herons first came to nest, in Alameda (Condor 2:10) although they had roosted in the cypresses before that time. At first there were only 5 or 6 pairs, but they increased, in spite of sporadic egg collecting by Cohen, until by 1925, Cohen estimates, there were 200 occupied nests. 1925 is the date when subdivision of the Cohen property commenced.

Nycticorax nycticorax

Eggs were taken by Cohen from the accessible nests (many nests were not within reach) off and on through the years, usually only when the sets presented unusual features, such as five eggs in a set; the birds were not excessively persecuted during this period, then. Finley and Bohlman took pictures of these herons at one time (see their article in the Condor). I am inclined to question the accuracy of Cohen's statement in view of Finley's description of the place; sounds more like Patterson's swamp. No herons nested anywhere in Alameda prior to the Cohen nesting in 1898. Later, as stated by Cohen and also by Mrs Kelly, they increased and spread to adjacent sections as well. In 1923 they even took to nesting in some of the live oaks in the Cohen estate, evidently because the colony had expanded to such an extent that all available locations in the cypresses were taken. Those Cohen cypresses were all cut down after the subdivision,

By the way, only the calls (see photos), and not many even of them, still stand.

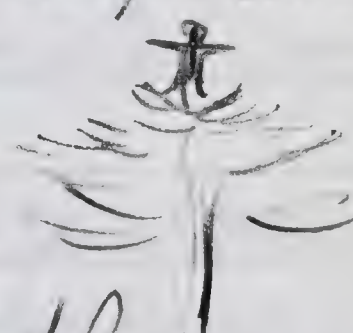
From his notes he read to me an account of shooting a black crowned night heron which had been standing beside a chicken coop, and finding upon dissecting it that five baby chickens had just been swallowed by it. He showed me, in his collection, the skin of a (black) rail about nine inches long which he had pulled up, beneath a herons nest, which contained large young, and explained that he had found several other young rails in such places also. They had been brought in by the adults and fed to the young, which in turn, had regurgitated them before they had become digested, according to him.

arguments feint that chase around here; it was black in color, anyway

February 6, 1932 I saw two of the Lincoln Park grounds workers today. They said that there were many herons roosting in Lincoln Park and always had been. They denied that there had

been any shooting of herons in their park, saying that their Supt. (Supt. of City Parks, I suppose) had written to Washington, D. C. for permission to shoot the birds but had been refused the permission. Neither of these two men were very intelligent, so the details of their story may be wrong, however it was confirmed by a man who works at Washington Park (Central Avenue). At any rate the Lincoln Park men declared that no shooting had taken place within their knowledge, and when I mentioned the policemen who told me personally (when I was at the city hall) of shooting a heron one morning they said that it must have been done when they were not present. The men confirmed the report of the herons causing trouble in the bleachers and showed me the bleachers and the immense cypress tree (the largest in the park) which hangs over them. They said that they had made a scare crow in the shape of a man, with arms outstretched,

hat on head etc and placed it in the top of the tree, ~~after~~ and at the same time they had broken up all the herons nests. after that the herons, although still using the other cypresses and acacia trees in the park, had never returned to the big cypress tree. This scare-crow idea seems the one of the best methods of driving the birds away. I saw the scare crow myself. it was in the top of the tree, above the highest branches:



Within the last two or three months a few herons have commenced to use the cypress tree again, the men said (this is significant in view of my own observations) They showed me a few spatters of white on the bleachers and said that before the birds were driven away the bleachers were fairly white with the droppings. The men showed me several

of the herons which were nearest the ground in the aroeias. There were many more, they assured me, but the density of foliage, especially of the aroeiras and the near-invisibility of the birds made it impossible to gain an estimate of their numbers; the only way to take a census would be to watch them when they first flew out at night. They nearly always fly toward Bay Farm Island when they start out on their evening foraging, I learned.

The men said that the Bunneys blackbirds nested regularly in the park, as do the herons also, and that the blackbirds persecute the herons incessantly. They also spoke of finding fish, the bodies and heads of rats, and other remains of food beneath the trees during the nesting season.

Since the birds have moved out of the one big cypress which overlooks the Aleiders the park people have no objection

to their living there. I hope Mrs. Scott's birds don't take to roosting in the fig cypress. I feel nearly positive that Mrs. Scott's birds have moved to Lincoln Park and not to Lake Merritt, now for the following reasons:

(1) I saw them fly in that direction always when I cleared them out of Mrs. Scott's yard.

(2) Lincoln Park is about 3 blocks away, whereas Lake Merritt is 2 miles away and in a different direction.

(3.) Lincoln Park has been a home of these herons or their relatives for many years.

(4) When I visited Lake Merritt today I was unable to confirm Mrs. Kelly's observations (see ante); I made out 5 herons with difficulty, none of them being out on the road but on the contrary, being confined in the squishy brush which grows there in wet nests. Of course there may have been

many more which were hidden from view, but in view of the fact that, from my own previous observations, Lake Merritt has supported a moderate number of these herons right along, it seems unique to infer that the Alameda herons have invaded the district in any numbers, if at all.

arrived at first communicated here.

April 5, 1932. Same old place, conditions, etc?
Mrs. Scott tells me (letter and phone) that for about a month now large herons have been roosting in her tree again. The ground, she says, is covered with droppings. The birds were not in evidence until about a month ago; also their droppings were not seen until about then. No more than three birds have thus far been noted.

Sept 28, 1932. Same place. The number of herons was still 3, and according to Mrs. Scott, had not been more than that at any time. I had made a life size scare crow with hat, blue sweater, and gray pants, and

this I put up into the tree today about 20 feet from the perches of the herons. An alarm clock was fastened (with pulley and string for lowering) to one arm.

The three birds did not leave until after I had thrown up two or three sticks, although one of them did shift his position in the tree when I merely walked about under neath, before I had thrown up any sticks at all.

Sept 29 - 12 m. Three again left, only after several shakings of one of the tree branches. Mrs. Scott had shaken the branches (by means of a cord from the roost reaching to the ground) and also wound and set off an alarm clock, yet the birds were still present. The same crow will have to be visible above the tree top, instead of being beneath the canopy, I think before it will deter the birds, for as it is now they do not see it until after they have entered the tree, and then they prefer to

stick rather than to leave.
Attached a second alarm clock.

Sept 30, 1932 - One heron left today at 1:30 when I visited the place. Mrs. Scott had set the clocks for about 9:30 and 10 when she left in the early morning.

Oct 4 - No herons today at noon. Mrs. Scott had jerked the rope and set the clocks.

Oct 5 - Three herons at ab. 2 P.M. The clocks had not been set since the previous day; whether or not the rope had been pulled I don't know.

Oct 10 - No herons today (2 P.M.)

Oct 17 - No herons at ab. 2 P.M. Mrs. Scott says that she has been shaking the limbs of the tree with the rope every morning, also, but that only once has she seen the herons. She has set the clocks nearly every day also, but thinks that the rope has had nothing to do with causing the herons to leave — as I think also.

Ct tarsius alpestris octia

Los Banos Duck Refuge, by 3 l. turns,

2/28/31 Los Banos, Merced Co. Calif. 8:50 of a warm sunny A.M. Shrained lark observed to fly in small circles of rapid ascent (abrupt spiral) until in about 1 minute it was about 250-300 ft high. Once every few wing beats it would pause a second, just as these birds ordinarily do in straight away flight but in addition to this it would occasionally soil for just a perceptible interval on out stretched wings. When it got to the top of the ascent it immediately laid its wings and pointing straight down, dove without opening them until it was within about 20 ft of the ground when it spread them with an audible swish and zig zagged to within 2 ft of the ground, where it chased (or was chased by) another lark until both disappeared in straightaway flight over the ground. This is evidence of nesting activity (or at least preliminaries).

3/1/31 ~~One lark has es~~
Some lark same place. Watched

by Mrs. McCabe for several hours and seep to chase other birds away from its territory. I think this is the same bird which we hear singing every A.M. from before sun-up (6:15) until 7:30 or later by the tent.

3/15/31. L.B.D. Ref. Campground, same place as above. Preliminary nesting activity in full swing. Territory established to some degree for males can be seen chasing each other, but nest building does not seem to have begun. ♀s can be seen walking about feeding, either alone or with a ♂, also feeding but keeping always in the same direction as the ♀. Just now I saw a ♂ running in little circles in front of a ♀ with lowered head and partly extended wings. There was another ♂ about 2 1/2 ft away walking about but not displaying. Suddenly the 1st ♂ left of his display and flew at the 2nd ♂ who moved off a few yards. After the 1st few feet (about 5 perhaps) the 1st ♂ stopped chasing him and came back to the ♀, but

she flew around the tree he returned where upon he and the other ♂ both turned and pursued her, zigzagging here and there and suddenly dropping to the ground again to do it all over again. The whole took much less time than it takes to write about.

1:18 P.M. They have been singing all the time since 5:30 and are still going strong.

3/17/31 ♀ — think same as one mentioned above — seen feeding by e. cor of tent, that is, about 40 ft away. She seemed to stick fairly closely to this sight.

3/21/31 a ♀ and ♂ seen feeding side by side and about 4-5 ft apart in this same section. A moment later I saw what I think was an attempt to copulate. Two birds fluttered about first in the air and then on the ground. I lost track of one when they separated (the whole process didn't take more than 30 seconds) but the other one which I did watch was a ♀. She moved about on the ground with head down, head & body feathers

erect and wings drooping as though inviting the ♂ to approach. A minute later I did see the (ora) ♂ perched on the road about 10 ft away, preening his feathers.

3/27/31 L.B.G.R. about 100 yds e. of 3.l. towers on main E.T. rd. Nest with 3 eggs. ♀ flushed but I did not see from where, since I was riding by. I stopped and watched. She had alighted about 100 yds away, and appeared to be busily feeding for she moved ~~[illegible]~~ big zig zag in and among the grass tussocks, with head bobbing energetically, and stop every 15 or 16 steps to pick up something. However she kept wandering back toward the point from where I had flushed her. When she was within 35 ft of her nest she flew across the road and directly to it, settling down out of sight as ~~she~~ soon as she had alighted. The whole time taken was about 3-4 minutes.

9:30 P.M. – Sky overcast and a slight drizzle, but bright enough, nevertheless, to see clearly because of a new moon. Several horned larks heard singing in the vicinity of the tent — in

the enclosure there. They were singing loudly and continuously — just as they do in the early A.M. before sunrise, when the light is just about as dim as now

3/28/31 One nest, containing no eggs as yet, found in the enclosure by my tent which I had marked off as a future home land territory because of actions of birds (see pages). This was found about 3/23/31 by Mrs McCabe, who also found one just south of the 3d. tower about 30 ft. This latter contained 3 eggs today which I photographed. I left the camera in place for a snap of the ♀ on the nest. When first approached this nest the ♂ was in the act of driving another ♂ from his territory. He sang and muttered just after doing it.

Photo of nest & 3 eggs

3/29/31 Same as above. I left the camera in place and tried to get a picture of ♀ on nest but could never find her on the nest when I went over to look, which was about 4 times in 2 hours. I began to think the nest had been deserted because of my interference

Photo of ♀ on nest

so moved the camera back about 5 ft. and left it in position over-night. This F.-M. about 10:30 I approached, and the bird got up so quickly that I could not be sure she was on the nest, even; however I moved the camera up in position and retired 100 ft away behind a knoll where I was quite out of sight and waited on my car for an hour. Three times I came over to the knoll and walked cautiously to where I could reach the nest, and each time the ♀ must have seen me coming before I saw her, for all I noted she was her sneaking away from the general vicinity of the place. The third time I climbed the 3 l. tower and sat for over an hour in a cold hard wind without moving before she came back. When I first climbed up she ran off as usual, making a bee line away from the nest and not pausing to feed along the way. When about 75 feet from the nest she paused and fed a little, then flew past the

nest diagonally to a point 100 ft or more from it and commenced to feed, wandering here and there in what for a horned lark would be called a "leisurely" manner. In about 20 minutes she began to move toward the nest, sometimes running 20 steps or so toward it without feeding; then she would stop for several minutes and preen, then move on. Once more she went by the nest and past it, and here I noticed the arrival of the ♂. They fed near each other for several minutes and then suddenly there was a mix-up with a third bird which I imagine was an intruding ♀, since the first ♀ was actively engaged in the fight. When it was over (30 sec.) the pair of birds were feeding 60 feet past the nest in another direction and I could not tell where the third bird had gone — it all happened so quickly. After this, in trying to keep track of the ♀ I lost sight of the ♂ also. The ♀ went through the whole process of

Atoranis a. atra

leisurely approach again. She took 15 minutes or more for it this time, but showed no fear of the camera, for she passed right under the lens. She came at last to the nest, stood looking into it, then walked only and fed again. She then moved off once more in an erratic zigzag course, feeding busily, and remained from 20 - 25 feet away for another 15 minutes. Then she came back to the nest as before and looked in and passed by again, as before. It was cold as Hell up in the tower. About 10 minutes later she came back for the 3d time and actually entered the nest, fluffing out her feathers as she sat down. This time I gave the thread a pull, and with the click of the camera she fluttered off and lit about 6 ft away, watching me. I came all the way down the ladder, and within 40 ft of her before she flew away, and then she only went about 50 feet off, so I do not think

any of her behavior reflected fear. The eggs themselves, being sheltered from the wind and in a noon-sun, were probably warm enough, even for such a length of time.

4/5/31 A young bird just able to fly flushed from ground on N. side of Refuge; collected.

4/11/31 N. of Olson pond. Youngster of same age as above flushed from the ground.

5/5/31 L.B.N.R. 2nd Butte camp. Using a 1200 ft. beam flashlight I approached a ♀ several times and was able to get within 3 ft of it only twice before it blundered away, in fact had it not been for the noise I made in the grass approaching I could have caught it the first time. Once I was following it with the beam and saw it alight in the water, so bewildered was the bird, and at length, by approaching very slowly, I caught it as it crouched close to the ground a few moments later. Put it into a paper bag for the night. (See under Ophrys ala, which I held in my hand while catching the lark).

5/7/31 L.B.D.R. 2nd Buteo camp. A young bird just able to fly a few feet caught; released.

5/23/31 L.B.D.R. S. Ruth Lake. Bird same age as above caught and photographed. 2 photos.
About a mile further: another just like the above.

5/24/31 L.B.D.R. 3:15 P.M. Dark, cloudy, rainy (w/ squalls). Between squalls one can hear the larks everywhere singing just as they do at same light intensity of dusk and dawn (instinctive response?)

5/31/31 L.B.D.R. S.E. of 2nd Buteo camp. Youngster out of nest, just fluttering; released.

6/3/31 L.B.D.R. at 2-But. camp. Saw my first flock of this season, of about 25 individuals in a rather compact group flying up at my approach.

6/8/31 L.B.D.R. near 2B. camp. Three horned larks taking dust baths near together in middle of road in early morning 6 or so. They will get all wallowed down in the dust and just lie there for a moment in pure content ment — or maybe turn their heads and pick at something — before shaking and fluttering again vigorously in the dusty earth.

~~Otus asio~~

8/22/31 Alpine Creek Ranch (Ralph Estate), San Mateo Co., Calif. Boat house by "lake". Heard a screech owl calling once or twice last night.

9/21/31 Alpine Cr. R. by cornfield. Heard an owl of this one, McLellan says he shot one at the woodpile the other day. It was roosting there. (Find out where woodpile is and hunt for possible nest).

9/28/31 Alp. Cr. R. by bunk house. Heard one of these owls several times - may be the same one heard previously at boat house, and ~~very prob~~ perhaps the same one heard from cornfield, but this latter place is much farther from the other two places.

10/1/31 Alp. Cr. R. by old cow & hay barn. Last night I heard two of these, utter mutually during the first part of the night (9-12), and then again from 4:30 - 5.

10/31/31 Alp. Cr. R by bunk house. Heard three simultaneously. They give the huh-huh-huh note more on the tune order of a loon than on the order of a bouncing billiard ball. Indeed, I don't remember ever hearing the soft gentle

"billiard ball" note such as I used to hear in So. Calif. given by the birds here at the Alp. Gr. R.

Dec 16, 1931 Alp. Gr. Ranch, by bunkhouse. Heard one of these owls ~~hoo~~ chuckling intermittently in the early evening (8:30-9:30) last night and also, I think, at some other time later. The billiard ball note seems never to be given.

March 21, Jan 1932. Alp. Gr. Ranch, by bunk house. At about 10:30 P.M. I heard a screech owl calling just once. It was a very bright moonlight night, and there were at least 5 horned owls hooting (see Bird, this date). Whether or not the unusual light had anything to do with the calling of either species of owl I do not know.

Mar. 26, 1932. Alp. Gr. R. by bunk house. Heard an owl one, at about 10 P.M.

May 10, 1932 Alp Gr. R. by big barn. Heard one about 7:35 P.M. Probably same individual, or mate, as above.

Sept 5. Alp. Gr. Ranch by Quail welcome (= "Q.I.") heard one call last night, also about three weeks ago at the same place. There was little or no moon at the time.

Dec. 26, 1932. Alp. Gr. Ranch, by Q.I. "garage".

Hearing a repeated squawking from two Calif. jays I discovered a screech owl perched in the sun, on a slender not very leafy, branch of a small oak (Quercus chrysolepis). The jays were hopping about within a foot of the owl, squawking the while, but the owl sat hunched up with half-closed eyes and seemingly paid no attention. Presently the jays were joined by two plain titmice, which kept at a somewhat more respectful distance (2½-3ft), but scolded even more energetically, in small raspy chuckling voices. After a while they left, and I walked under the tree, whereupon the owl - about 9 feet above my head - stared down at me, with puffed up feathers, looking like a miniature horned owl. I went away and got the camera, and upon returning, stood 10 feet away and took a picture (which I ruined!!). While I was waving my focusing cloth violently about to make the owl look more alert, it became nervous,

as evinced by its standing up and looking about in various directions, and of a sudden it spread its wings and flew in that curiously weak, fluttering fashion that screech owls have, into a tall dense bay tree (Umbellularia californica) 30 feet away.

Jan 2, 1933. Alp. Cr. R., by Q. D. Caught an owl in one of the pole traps there. His feet were not hurt because I had wrapped the trap jaws very heavily with twine. He acted as captured screech owls usually do, that is to say he played possum, offering practically no resistance even when handled continually. Pushing him under the chin made him open his bill in an inaudible hiss; touching him on the top of the head made him completely shut (momentarily) his nearly closed eyes. When laid down on his side on my bed he did not offer to move even after a half hour of minutality. No sounds were made by him. Once only, when being handled, he flapped his wings once, feebly,

at the same time snapping his bill, but he immediately resumed his former lifeless, limp, posture upon being handled further. Took one photo of him and kept him for further observation. Allowed himself to be placed on his side on the scale pan, and did not move a muscle during the weighing process - wt. 130.9.
It was with difficulty that I got him to stand up on a branch to be photographed. Most of the time he simply toppled over.

photo for

Jan 4, 1933 - Same Owl. 8 p.m. The two goldinch. sparrows left which him are gone - even the feet, legs, etc. etc. Only a very few feathers present on the ground. Left part of a tarsus with him.

Jan 5 10 A.M. Owlet untouched, and on the ground dead. Weight now only 107.5, as compared with 130.9 (same time of day) when he was first captured. Bird rather thin. Sex ♀. Stomach empty except for the elytra of one beetle.
Ce pellet which I found contained parts of the skulls, the long bones, and the two stomachs of the two sparrows.

In other words he must have had plenty to eat the first night (Gom 2), and probably something left over for the second night (Gom 3), while on the third night I fed the owl again. It would seem as though starvation couldn't possibly have taken place. I left the sparrow hawk with the same number of birds during the same period and she hadn't even finished the second one when I got back. Even if the owl has a fundamentally different metabolic rate (Groebbels, Benedict and Fox) it shouldn't have starved in that amount of time. There were no bruises or blood clots on any part of its body, as I found by skinning. Don't know quite what to think.

January 8, 1932. Last night, between 7:30 and 9:30, with the moon gleaming brilliantly, I heard more, and more varied, screech owl calls than I have heard hitherto. Not that the moon necessarily had anything to do with it, for Pacific Horned Owls,

frequently to be heard in several quarters simultaneously, were more than usually silent during this time; however, the thing did happen. There have been at least three owls around the Q.I., very evidently, until I caused the death of one of them, for tonight I heard two calling from two separated spots near the Q.I. One of them gave a low, monotonously re-iterated single note, now slow, now a bit faster, for two or three minutes at a time (without interruption). For a half hour or more I listened to this without knowing whether or not it was a screech owl. My doubt was not dissipated when twice during this time it broke out into a thin high-pitched, single toned, shrill whistle or scream, better: ha-r-e-e-e e-e-e-e which swelled in loudness and then subsided. A very bird like note, to be sure, and evidently from a small bird too, but nevertheless quite wild sounding. I kept whistling back, the monotonous call, not the scream, and gradually during

the half to three quarters of an hour the owl drew nearer until from being in the thick woods 200-300 feet away he was in the pine trees 50 feet away. However, whenever I tiptoed in his direction, whistling, he would always cease and I could never locate him in the dense foliage. Presently, while he was near, he broke into the chuckling há-hó! há-há-hó! which one usually hears from screech owls, so that I felt quite sure of his identity. During this latter period another of these owls was calling, very low, about 150 feet away. It was giving a call which I have never heard this surprisingly quite before, namely the soft "billiard-ball"-like chuckle which is the usual note of the Southern California bird (O. a. quercinus).

Feb 21, 1933. Alp. Cr. Ranch, near Mindego Mountain. About 7 P.M. (dark) from out of a deep, wooded ravine I heard again the gurgle, monotonously repeated whistle described above.

I think I have recorded, earlier that once I saw a screech owl in broad daylight fly out of a sycamore tree hole, alight in a sun lit path, then, startled by me, rise and fly back into the hole again. In and out of the hole there was passing a steady line of bees, evidently proprietors also. The owl may have been annoyed by the bees into temporarily moving out. In this connection see Flintoff, R.J., 1931 "Bees and birds", Naturalist (England), 350, who records jackdaws nesting in a tree hole occupied by a swarm of bees.

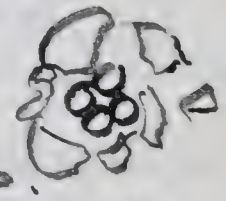
Coryphus vociferus

1

5/28/30. Los Banos Game Refuge, Merced Co. Ruth Lake. Nest with 4 eggs, 50 ft. from shore on dry sparsely short-grassy level ground, 2" from piece of cow-dung. Bird crept off and did not start calling till many feet from nest. Bird made no noise while we were examining the nest. Cup about 5" diam. - a very slight depression lined with small bits of cow dung, gr. squirrel feces and rabbit feces.

7/8/30. Apparently young have mostly matured, as full grown (stature at least) birds seen in groups up to seven at a time. Others however, still fly agitatedly and give alarm cries.

2/23/31 200 ft n.e. of 3l. tower, Los Banos Game Refuge, Merced Co. Calif. Nest with 4 eggs in center of a broken piece of cow dung, on short green grass discovered by Alden Miller.



The Long ends nearly straight up. The bird evidently sneaked off unobserved for she was not in evidence when we came upon the nest — in fact, from the absence of any bill down there we thought the nest was

Oxyechus vociferus –

deserted. About 2 minutes later, when we had gone back to the tent (100 ft away) we found a bird on the nest – although there it been no sound. Later, Wolfe approached again to take pictures of the nest, and found that she simply sneaked off and ran a short distance away, quite without sound, and stopped, without demonstration. As soon as he went back to the car she commenced to run back toward the nest, and in about a minute was once more sitting on the eggs.

2/24/31 Same bird, same place. Camera placed out by nest (15-20 ft?), but this did not disturb the bird enough to prevent it coming back to the nest very shortly. About three hours later the camera was moved to within 3 ft of the nest and this did cause the bird some alarm. When it returned after its retreat at my approach it first annoyed its presence in the neighborhood by one or two short

Hammer, E

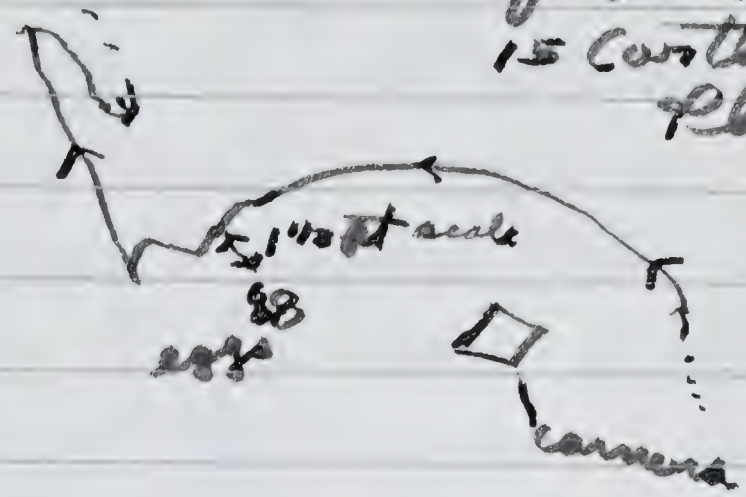
dees. I think it did this just after returning from some more remote spot to the region of the nest, because whenever it departed from the nest area for other regions it would call thus and also usually after alighting at such a place (few minutes later: yes, just now this actually happen). Finally however, she did settle on the nest and I took her picture (rather light struck). The click of the shutter did not frighten her away. Later I went over to the camera to change films and of course drew her away. She departed giving one or two "dees" a few feet from the nest. At this point there must have been built up in her brain some association between the camera and my presence because for the next hour and still at time of writing, she kept flying to the nest, restlessly walking about, with a bob and a bob after every few steps, sometimes almost up to the nest, and then flying to a small slough nearby, with a series of dees, to take up its station there for two or three minutes — and then

Probably ♂ jr.

Oryechus varifemus 4

slight

repeat the process. Picture below of nest number 15 (see there also). Phione was very short.



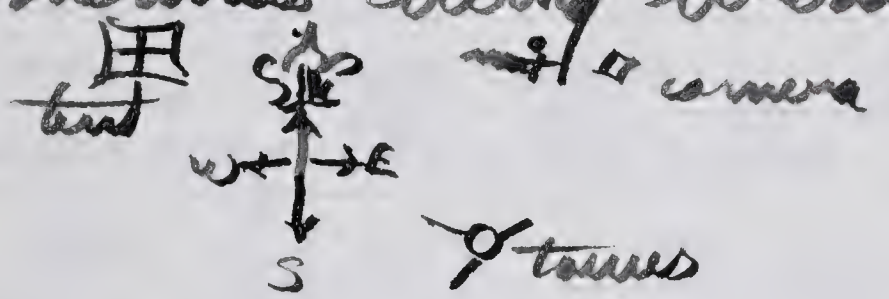
She always announces her arrivals and departures by a dee or a series of dees. At this time I am 125 feet away, very still half reclining in my tent. Yesterday, before the camera was there to scare her she would come to the nest when we were all moving about in camp only 100 ft away. This last time as she left the nest she flew low (1 ft) over a small flock of coots and made some of them duck and run.

10 min later she came back and ran almost straight to the nest. (?) was moving about than, not sitting still as before, facing the lake.

Same bird, place, nest etc.

2/28/31 Bird on nest. eggs not yet hatched. Camera moved up to within 20 ft and left. Bird not much alarmed by my approach, moving only about 75 ft from the nest and calling but little. She came right back in spite of the camera, when I left, and settled down on the eggs immediately. She seems to sit only intermittently, for example: at about 10 A.M. when I was on top the 3d. time only about 125 ft from her she got off the eggs and commenced feeding (on something) right at the edge of the nest. She kept walking straight ahead, picking things up at short intervals, with her bill, until several feet (20 ft) from the nest and almost beneath the camera. Then she turned around and walked back almost directly to her eggs and sat down on them, shifting about a little at first, fluffing up her feathers and wagging her tail. About 10 minutes later, however, the bird was no longer on the nest (although

I had not moved) and I could see her movements. She seems not to have any preference with regards direction, while sitting, sometimes facing the camera and sometimes being broadside.

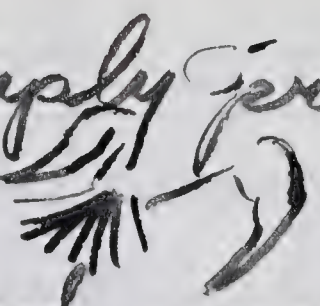


her positions are (a) and (b)
as superimposed on the above.

Although about 3 killdeers are to be seen along shore in the vicinity of the nest none of them ever come very near the nesting killdeer or can be identified with here.

2:45 pm.

Bird on nest (camera in place). When I approached she flushed at 50 ft and ran straight away from the nest about 20 ft with a series of "dees", not very loud, just as before. Then she suddenly stopped, crouched down on her belly with pointy folded wings on each side and tail widely spread and depressed with legs

of dark feathers sharply reversed against the ground 
so that the orange showed up very distinctly. In this position she pushed herself along on her belly about 6" or so, lying over on first one side and then the other and uttering a low d-e-e-e-e-e-e-e-e-e-e-e (seven notes on same pitch) — the typical "broken wing trick". She would stop this after a few seconds and run out one within 15 ft and then squat down and do it again, 5 or 6 times in all. I set the camera, withdrew 100 ft and sat down out of sight. Almost immediately she began to approach the nest, running a few steps and then stopping, sometimes with a low dee or two. At this time I suddenly noticed another killdeer which was standing about 20 ft from the first and like the first one crouching its neck in any direction. It moved about a few feet now and then like the other one, but never made a sound and never came

closer than 30 ft from the nest. Pretty soon the other bird came to the nest and I pulled the trigger, then rose and walked to the nest, both birds retreated to a distance of about 40 ft from the nest. Immediately I went back into hiding. I lost sight of the second bird then and did not see it again. The first bird, after a somewhat longer wait than the first time, and the usual maneuverings came to the nest. The shutter clicked, she started away, turned back, walked around a few times, and settled down on her eggs again. I did not disturb her further at this time.

Photos 6

3/2/31 L.B.D.R. by Olson Pond. Another bird flushed from set of four eggs. Actions similar to those of first bird.

3/7/31 L.B.D. Refuge. Bird by tower. Mrs McCabe watched this during the last two days and says that there are 2 of them attached to the nest. (Just as I had supposed). They took turns incubating, she said, and in some

cages made the change so quickly that it was almost mysterious. One bird would appear on the ground near the nest and run up to it, then the other would slip off and the first take its place within the space of a few seconds. On 3/5/31 there were ~~three~~ four eggs, as usual, but on the morning of 3/6/31 Mrs. McCabe noticed that there were only three. How one disappeared, and whether it was during the night or day she did not know.

3/8/31 7 people are moving back and forth past the nest while combining a coat bag 125 ft away. The bird shows some nervousness when we approach very closely, but she does not run more than a dozen feet from the eggs, and then makes very little noise, and does not try that broken wing ruse. It shows much less anxiety than it did when we first discovered the nest.

3/11/31 Observations on same killdeer
5:30 A.M. Sky overcast although grayness of dawn; raining lightly but steadily;

Oxyechus vociferus 10

temperature about 44°F {Thermometer at 7:15 P.M. on my tent}

5:45 A.M. A horned lark heard singing, and a killdeer (probably one of this pair) heard deeing.

6:15 A.M. A faint line of orange in south-east but sky banked with clouds everywhere else. A slight chill breeze has sprung up. Too dark to see Killdeer against her surroundings.

6:30 A.M. Somewhat lighter, but still very hard to make out the bird on nest. She was not sitting when I went to the nest, but must have been until the moment when she sneaked away, undetected, at my approach, for nest and eggs were dry, making a little light-colored spot against the dark wetness of the rest of the ground. This rain did not start until about 4 A.M. and has now stopped, so that the ground is only superficially dampened.

6:45 A.M. Not covered by sitting bird, but so hard to make out that I took a stake and hammered it into the ground a few feet from the nest. When I approached the bird

got off with a few "dees", which were repeated by another bird (in a notice ably higher key) from the vicinity of the 3 l. tower. When I returned to the tent the bird came back to the nest immediately.

7:30. Still on the nest - since 6:45 - and facing toward the 3. l. tower.

7:35. Got up with much deeing, walked a few steps, then flew, still deeing, and disappeared. In less than a minute, however, the same (or another ?) bird came back crying as before, let about 15 ~~minutes~~ ft. from the nest, ran straight to it, and sat, facing as before. Wind is from ~~east by south-east~~ (compass and steaming pot).

7:53 Got off, deeing, flew to base of 3 l tower, picked up a number of minute objects (what?) from the grass for 1/2 minute, then flew back to within 4 ft of the nest, stopped, looked once, ran straight for it and sat down, in same position as before.

8:03 I went over toward nest to get a piece of rope and the bird left, flying at first walking off to a distance

Oreophanes vociferus 12/ of four feet and feeding — or pretending to feed — and then flying off to the top of a small 75 ft away, diving — About this time the other bird appeared from some where and alighted diving

At 8:04, or about one minute after alighting 20 ft from the nest it went straight to the nest and sat down, facing e by north east.

8:06 This bird left, although it was sprinkling slightly.

No bird on nest until:

8:17 Bird (dont know which) back on the nest, facing toward tower again. ~~e by north east~~

8:33 Bird facing n. east now.

10:05 Raining steadily but bird not on nest and nowhere to be seen.

10:15 Observed to be on again, facing east

10:45 Same. It is blowing hard and raining lightly.

11:15 Sitting. Same weather [Left for the day at this time.

3/14/31 L.B.D. Refuge. Just north of Ruth Lake — another Killdeer nest found by seeing a bird sneaking away in a straight line with head lowered, the way they do. 4 eggs.

3/15/31 Observations on 1st Killdeer (by 3l. tower)

Photos 5:30 Dawn just showing as a thin orange line above the crest of the Sierras; too dark to make out objects on the ground. A Killdeer heard dee ing as though just

Oxyechus vociferus

leaving or just returning to the nest. The usual early morning horned lark chorus and the usual Bubo hooting, at this hour.

6:7 A.M. Light enough to make out the nest from my tent. Bird is sitting, facing camera tripod and 3 ft. tower. The tripod minus camera, I put in position 5 ft from the eggs yesterday afternoon. She keeps moving her bill slowly here and there in front of her on the ground as though picking up and swallowing small objects. Possibly gnats.

6:15 Still picking at small objects; no shift in position on nest. These observations represent uninterrupted watching for today unless the contrary is indicated.

6:20 Preened her neck feathers for a second. Sun just appearing over the Sierras

6:21 Gave a dee and left the nest, flying off toward nearby slough where lost sight of her. She gave about 3 more dees while flying. Temperature 36°F; dew very heavy on ground.

6:26 Killdeer heard calling from n. east about 100 yds from tent. In a moment she appeared over

the crest of the knoll which is about 70 ft. from the nest. I do not know whether this was the same bird which had left, or not. It would run for about 6 ft. then stop and look about, sometimes with a bob or two. It made straight for the nest, however, stopped in facing the tripod as before, but in lowering itself it turned with fluffed out feathers until it was facing between e. and n.e. The sun does not yet shine upon the nest because of the low position of the sun and the many irregularities of the ground.

6:32. Another killdeer heard calling for a moment nearby, but the sitting bird did not leave.

6:36 Bird now sitting n. by n. west, with back to the tripod and 3l. tower.

6:48 It has not left nest, but facing east now.

7:13. Got up and flew away toward the slough without making a sound until a hundred feet or more away.

7:16 A bird flew by in a semi-circle near the nest calling, but passed on and let out of sight behind the knoll. She

Oxyechus vociferus

must have turned without my seeing, though, and come back for at 7:19 a bird was setting facing the tripod again. Wind blowing (hardly perceptible) from the S. west. Sun can now shine on nest and eggs.

7:28 I heard a faint dee and found the bird off the nest and shaking and ruffling her feathers. While I looked she went to the nest again — not having been over 3 ft from it — and sat down again, facing towards the camera tripod. Every once in a while she dabs at ~~her~~ the ground with her bill again, as though feeding.

7:32 left nest and flew, giving about 5 dees while flying away. A minute afterward it or another bird flew past the tent calling at intervals. It or another bird flew past the tent without calling 30 sec. later and lit by the slough.

7:36 A bird calling continuously started from 100 yds beyond the knoll, made a wide loop around the camp grounds (I was

Oxyechus vociferus

out of sight in the tent) still calling, and finally lit in the vicinity of where it had started. Another bird "died" about twice during this performance but I did not see from where.

7:43 A bird appeared from the vicinity of the knoll and approached in characteristic manner it →

7:46 Settled down on the nest, facing the tripod

7:58 The bird got up and walked from the nest straight away about 6 feet, with the same pauses as in approaching. Then it flew straight away with the usual dess and disappeared about a quarter of a mile in a straight line from the nest, far beyond the slough.

8:27 Must have returned during the last few minutes, because I have been looking most of the time, but I did not see the bird come and it certainly made no sound. Facing S. West this time.

8:35 Left nest when I stepped out of tent to go to the 3 ¢ tower. While I was

up in the towers she left the spot entirely and [redacted] away toward the slough.

A number of horned larks - usually two or three (not yet nesting - see under Otocoris) are usually moving about in the vicinity of the nest, and have been ever since it was discovered, but I have never seen the killdeers show any hostility.

9:15 Bird still not present so I set the camera up on the tripod and arranged the thread in readiness for a photo when she (?!) arrives.

9:36 Three killdeers flew over near the nest, all crying, none very close to any other. All went in different directions; one I followed; it flew 1/5 mi to the ~~east~~ west, when another killdeer arose and followed it for a distance. I can make nothing out of what followed: the pursuer dropped behind and came to earth, the pursued circled about some space, passed by the pursuer without being chased and lit in the vicinity of two other killdeers by a road. There was some restless shifting

Oxyechus vociferus

of plover and then one of the three got up, circled about followed by another of the three and then both alighted about where they had started. Then one of these three and some other bird got up and flew by over the nest by camp, both calling continually, and disappeared 1/6 mi to the ~~west~~ east somewhere. Also, I continually see three killdeers in a spot and yet no fruition. The territory idea doesn't seem to explain all this.

9:45. Same 2 birds (?) in the east circling and crying and then alighting. Probably the pair that owns the nest but not sure.

9:50 Far side of slough — a continual calling on the part of two birds. Finally I located them among the weeds 125 yds away. It was hard to be absolutely sure but I think one was standing on the back of the other, but perfectly upright and not copulating. When the lower one turned around facing the other way the one which I thought was standing upon its back was seen to rotate simultaneously and equally

thus confirming my guess. Pretty soon the top one got off and left (I lost track of it), the other shook its feathers out, moved down to the water's edge, ran a few steps, then uttered a prolonged series of cries and flew across the slough to the land near the nest, alighted, craned its neck at the camera (recently placed in position), and came up to the nest. It then sat down on the nest facing the camera and began preening its feathers about the neck and breast.

10:07 Facing north now. A flock of snow geese passed overhead but I ~~could~~ could not see that the killdeer paid it any particular attention, although she undoubtedly saw it because she was moving her head about, looking first to one side and then to the other

10:10 Off the nest feeding in the grass 10 ft away.

10:11 Back again. In settling down on the nest it always wiggles its tail from side to side for a moment. It went on facing the camera but turned and faces n.e. now.

10:15 Bird still on the nest. What I took to be the mate was circling about and calling off about 150 yds to the east. It alighted there and then about that time another bird from the far side of the slough came over, calling continually, and alighted near this bird which I thought was the mate. I can't make out the territorial limits.

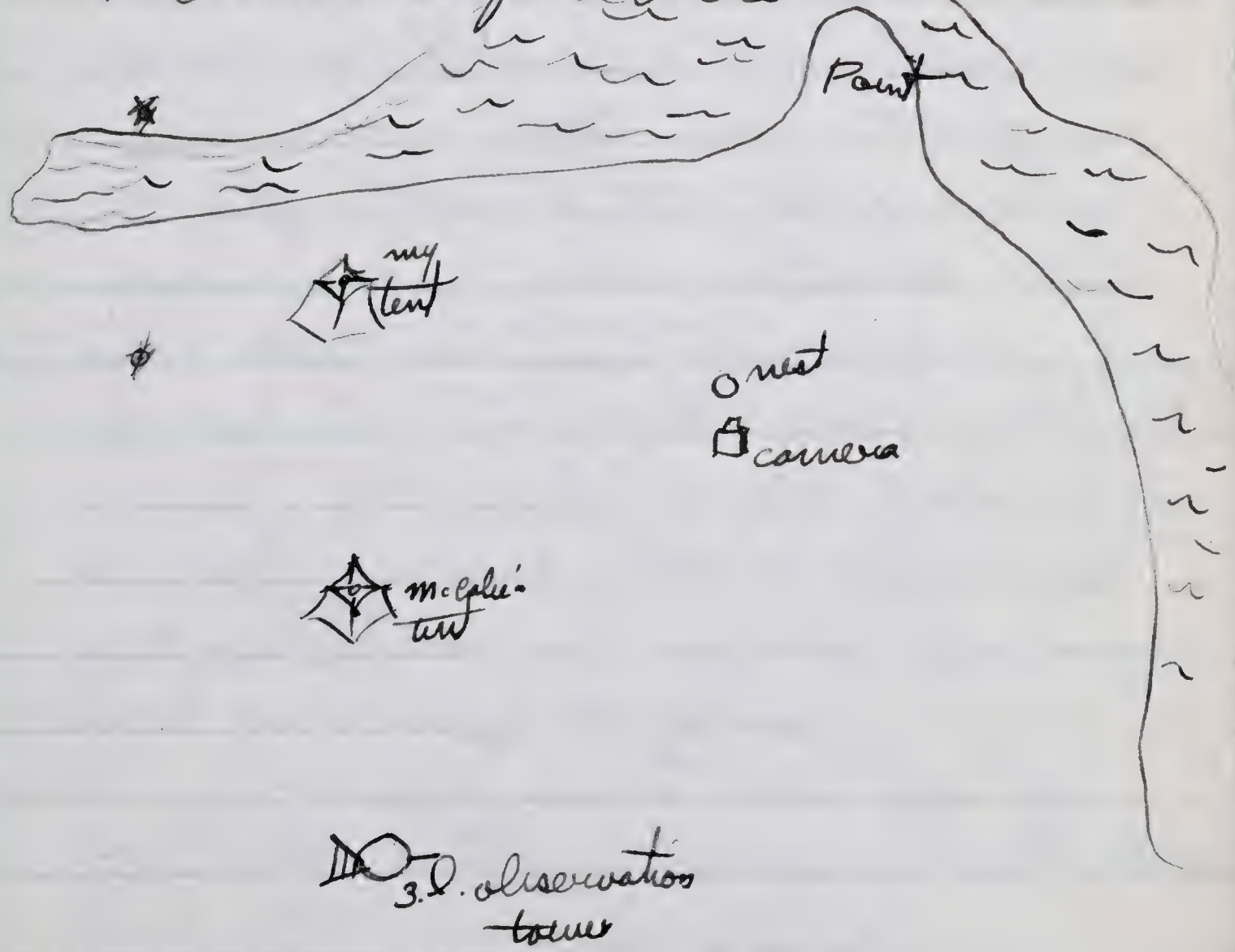
10:16 Bird by the nest has risen and is feeding by the edge of it. I snapped the shutter and at the click she flapped her wings once and then gave a little run till she was 6 ft away. There she fed for a minute then came back to the nest, sat on it, got off again and is now feeding about the bigger logs. Inside the tent I hammered loudly on a tin box with a knife but she did not stop her feeding or preening

10:25 Left the nest and flew eastward.

10:30 An adult ♂ marsh hawk flew low over the ground to the east of the nest, where the killdeers always disappear and three killdeers were soon sailing about in the air crying with more

excitement than usual. None of them done at the hand or ment near him but one bird in particular gave a number of loud prolonged cries in a series such as I have heard them give on the Puente Hills, S.B.Co. when I was near a nest.

Observations from the tower: the place to the east where they always disappear is seen to be a slough. They drop down out of sight on its muddy weedy margin, and daintiness feed there too.



10:45 Bird seen feeding on margin of slough ~~hitherto out of sight~~

10:52 It got up and flew across the point to the far side of the slough, and alighted

11:10 Both birds appeared without noise from across the slough on the north. The larger alighted near the camera (20 ft.) and ran about, looking and craning its neck, but not getting on. The other bird ran around about 40 ft. from the nest for about two minutes then flew to the "bidden" arm of the slough (see above) or east arm, ~~to~~ here it began to feed. Presently the larger bird, which had been feeding near the nest without going on, joined it. They fed and wallied about ~~to~~ until 11:25 when the smaller bird flew to the nest and settled on it, while the larger bird continued to feed.

11:31–11:33 Smaller bd at nest got off and fed within radius of 5 ft; larger bird still down by slough.

11:36 a third killdeer settled by the slough but was chased by the larger

Oxyechus vociferus

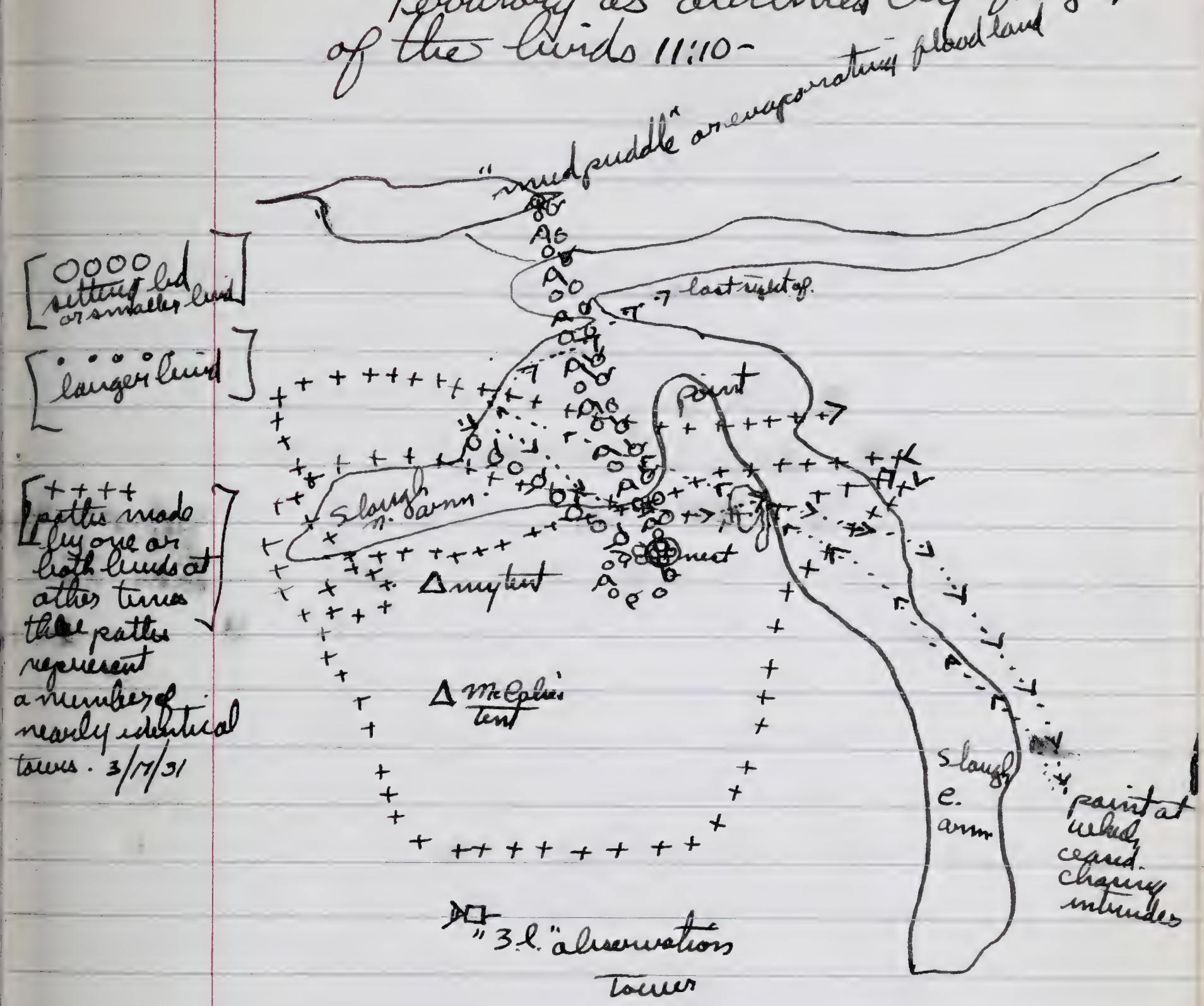
bird of the original pair; at first the intruder merely flapped to the other side of the slough, but its assailant flew over after him a second later and chased him 100 yds down the slough, after which it (the victorious one) settled for a moment on the ground, then rose, flew across the nest flat to the n. arm of the slough, stayed there about 4 minutes, then flew to the farthest side of the slough opposite the point, where I shortly lost him in the weeds. About 11:35 the sitting bird got off, made a wide circuit (radius 60 ft) of the nest towards the tent side, feeding the while, and at 11:50 returned to the nest again.

12:06 Sitting bird got off gave a number of single dives, fed a moment, then got up and flew north to a mud puddle 1/6 of a mile from here ~~and not shown on map on p 24~~

12:11 Same bird came back in a straight line from the slough and

(cont on p. 25)

Quenbus monferus
Territory as outlined by flight of the birds 11:10 -



Oxyechus vociferus

alighted near the nest and was sitting in about 1 1/2 minutes. Sun behind thin clouds; atmosphere hazy; temperature 73

12:20 Scared off by me ~~about~~ ~~12~~ as I went to my tent from tower; flew away in direction of mudpuddle again, but I could not find her with my glasses. Camera taken away; also tripod. Perhaps a snake (see 3/15/3 under Gopher Snake) took the fourth egg.

12:53 On again — which bird I'm not sure but think it the same one. Has come on within the last 5 minutes.

12:58 Off and feeding 2 ft from nest

12:59 On again, facing N. west

1:05 Feeding while on the nest

1:08 Facing S. west now, still picking up small objects. Turned so that she faced in the opposite direction and now back again to 1st position

1:17 Preening posterior parts vigorously

1:25 She left and flew over to the farthest point on the slough when I came out of the tent, but came back in about 3 minutes and stays on the

Oxyechus vociferus

not even when I started up the Ford about 100 ft away.

1:30 Left until 4 P.M. When I got back bird was sitting; it did not get off when the Ford came up.

4:13 Off for about 30 seconds to feed.

4:18. Same as above.

4:19. Off again and taking no notice of my coming 100 ft away flew off to mud puddle this time.

4:28 What I am practically certain is the same bird ~~came~~ flew from the mud puddle to within 30 ft of the nest and then walked - by detours this time - reaching it at 4:30.

4:33 Got off as I came round the side of the car (100 ft away) and after walking a few feet gave a series of dies and flew - where I could not see because the light, with a hazy sky, is bad. Temp is 73°F.

4:44 I think the bird went to the east arm of the slough because one came back from that direction, crying, and alighted near the nest. It fidgetted about in the usual way,

Ospreys nesting

although further away than usual — on top the knoll — but finally sat down on the eggs at 4:47.

5:10 left when I went over to the tent (don't know where) so I put the drop trap, just made, in place over the nest.

5:40 Bird around but was afraid to go to the nest. Several times it walked almost under the trap but each time it turned and made another "detour"

5:46 Bird left, flying off out of sight

6:18 bird still afraid so in order not to chill the eggs I removed the drop trap and left it propped up on a stake 4 ft away. I then left.

9:30 Bird seen to be sitting on nest by headlights of the car.

3/16/31 7:30 Bird left the nest as I stepped out of the tent, and flew off across the slough, as I approached. I placed the drop trap in position and retired out of sight. During the next two and a half hours both birds flew about in the vicinity, calling

Asyncbius nanferus

and showing uneasiness but not venturing to alight - At 7:30 they were still afraid to come near. I left at this time, and when I got back at 6:30 found that someone had pugged on the thread and squeezed the bag. How many hours the eggs had been cold I don't know. I removed the bag, and heard killdeer voices in the vicinity during the next half hour of dusk, but at 7:45 (dark for 1/2 hr) there was still no bird on the nest.

3/17/31 Birds have evidently deserted for the eggs are still cold, and they have not been visited at all this A.M. Both birds at times, but one bird very frequently - fly about restlessly calling and then drop down onto the slough shore, only to get up again 15 minutes or so later and repeat. The route in each case appears to be confined to what I have at last discovered to be the territory of the pair (Earlier observations of 3 birds together did not include note of hostility shown because in most case it was hardly marked enough. Clung on mutual

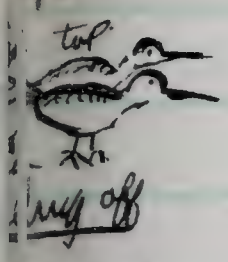
territorial boundaries) to be recognizable. Judging from their strict confinement to these boundaries I should expect the second nesting to take place somewhere within them.

3/20/31 Same bird etc. Eggs found to be deserted when I got back to the Refuge this P.M.

3/21/31 7:15 A.M. – Bright sunlight – a bird heard calling in same territory as above. When I stepped out of the tent one bird was just flying from the e. and alighting by the old nest. It ran about calling several times, right near the old nest but did not come closer than 2 ft to it. About this same time I heard a note or two from the other bird and discovered it about 30 ft from the first. They walked toward each other one at least, calling, and then ~~one~~ the second ("♂ think") mounted upon the ~~this~~ first's back (see previous note about a week ago) and stood there for several minutes. The supporting bird turned half about (just as ~~as~~ on the other occasion) so that both were now in profile . After a moment

The first gave a ee-e-e-e crouched on ground, one side, wing extended tail spread, the got up in another moment repeated performance.

upper side of under-bird's tail



Fig

Both birds began to vibrate their tails up and down with a quick, spasmodic movement then just for a moment it looked as though they might be copulating - see fig - with tails turned on one side (opposite side in each case) and then the top bird slid off and they walked apart.

3/22/31 L.B.D. P.of. nest by Olson pond mentioned before: On 3/17/31 I had put the drop trap, described previously, in position propped up and erect above the eggs there, and then had left not coming back until today. The bird left the eggs this afternoon at 100 ft as we approached in the Ford. We stopped removed the uprights and substituted the pull string with a pole and carried the string to a point behind a bank out of sight 150 ft away, the whole operation taking about 3 minutes. We ate lunch at behind the bank, and when we looked 20 minutes later the bird was on the nest. As soon as the trap came down the bird fluttered from the nest and kept trying to thrust her head upward through the wires at the

top of the trap making no efforts to go through the sides (only 3" high) or to work out at the bottom. When handled the bird made no noise, and ceased to struggle entirely; in fact it seemed quite impossible all the time it was painted. After being painted an brown, nape, neck and back it was set down on the ground 30 ft from the trap. It made no effort to fly, but ran quickly away, uttering a few dies until about 50 ft away, when it moved with the customary halts and dies. just as under ordinary circumstances when disturbed. We removed the trap and departed. No other bird was in evidence during this time.

The third nest — by Patty Lake — mentioned earlier contains nothing at this time. What has happened I dont know; the birds not in evidence either.

3/25/31. L. B. D. R. by 3 l. tower as before. About 2:30 P.M. ~~5 P.M.~~ or there about, ~~before etc~~ a

bird heard calling in the usual place - (dark for 2 1/2 hrs).

3/26/31 L. B. D. Refuge - Bird by Olson pond which was painted flushed from eggs as usual in A.M.

3/27/31 L. B. D. Refuge - 7:45 A.M. Donald McLean found that eggs of killdeer mentioned 3/26/31 (above) had just hatched. His attention was first attracted to the nest by the white-painted bird carrying an egg-shell in her bill; she carried it about 30 ft from the nest and then flew away without it, and it was not seen where. McLean had difficulty in finding the young: one was 40 ft south, at the edge of some tall weeds; another off in another direction and two others n.e. of the nest; only one was within 6 ft of the nest and no two young were closer than 6 ft from each other. One of the young was still slightly damp when McLean first caught them. He brought them to me and we went out to make an enclosure for them. I made it out of boards: 4' x 2 1/2' x 3". When placed inside of it the young

did not venture to move away, but crouched down wherever fit in concealment postures. only when handled did they give their faint peep, and even then it was not very vigorous. Both old birds were on hand, coming up within 20 feet and calling but giving no startling reactions, and not making any more noise than usual. When I came back 1½ hours later the young were found to have climbed out of the 3" enclosure and were not in sight anywhere.

It was surprising to observe the care with which the parents had removed the egg shells at the time when the young had just hatched; hardly any were left at the nest - just 4 or 5 small fragments 1 ft away - and some others about 20 ft away, but not enough even there to total more than one egg. There was a half of an egg shell in the ditch by the roadside, 20 ft from the nest and a few fragments further on in a straight line, as though the bird had made several trips from

Oxyechus vociferus 34

the nest across the road, dropping fragments along the way

4/2/31 L.B.D.R. between 3 & 4 towns and Red tail camp. As I walked past a certain flood land 12-15 killdeers circled about clamoring loudly. From Pirkuns' accounts (Auk 1930 & 1925) this must mean young for they have not been making such a fuss in this section hitherto, when eggs were present.

5/5/31 L.B.D.R. main E. & W. rd by 3 & 4 towns. Three small killdeers accompanied by their parents. One had just been run over but as I stopped the car 100 ft away and looked back the other two were running down the road (it was flanked on each side by water with no cover) accompanied by the vociferating parents who were flying and running nearby. As I came quitting 30 ft of them they both crouched flat right in the middle of the dirt road and so well did they match the color of the loose gravelly dirt that even when I saw right where they had stopped

I had difficulty in locating them. I threw them both into the water and watched them swim to the other side of the pool and land - one of them handy to swim 60 ft before reaching shore. They directed their course in swimming away from where I was even when I moved along the shore.

Same day - 2nd Butes camp - after dark. Several times I approached an old killdeer with my 1200 ft beam searchlight and was had - mashand within 3 ft of it before it flew. If it had not been for my boots making a noise as I kept up I could have caught it (as Otocoris & H mantogaus). As it was I followed the bird about with the beam each time it flew, and so bewildered it that twice it lit in water only to flutter upward and try again.

10 minutes later. In going by the same place where I had just seen the killdeer I discovered her at 20 ft distance sitting

Ospreys nesting

low on the ground. I walked up slowly, held the light just from her head and picked her up; she was sitting on four eggs. I weighed her at once, placing her back on the eggs. But she started up immediately and flew away into the night.

5/6/31 L.B.D.R. Road leading N. from Holts. One youngone about 2/5 grown - able to run away last but not yet able to fly. Photo. Released.

Photo

That night - picked up one of the hilldwellers near the tent by help of the 1200 c.p. flashlight, although not the brooding individual (which was brooding by the way). I kept it overnight; released next day (not banded or photographed)

5/23/31 L.B.D.R. Ruth Lake (E. side) hilldwelling nearly full grown but not yet able to fly. Chased to edge of water after trying many "end runs" he finally waded into the water, hesitating at every step until on getting beyond his depth he kicked off and swam away - feet moving very rapidly but hard, inactually, making very poor

Photo swimming Land

Oxyechus vociferus

time (coming to small narrow foot). As I reached forward to grab him he "dived" twice in rapid succession. This was merely a gesture - perhaps a lingering vestige of a once actually practiced instinct - for he ~~hardly more than submerged~~ merely dipped his head neck and wing "elbows" for a fraction of a second, the remainder of the body not going under at all. I banded him (581751) and released him.

5/4/31 Flood lands by 3 l. towers. 1 young about 4" long (1/10 grown?). Took to water when he walked toward him on a spit, but did so only when pressed.

5/31/31 Near Olson pond. Three young killdeers evidently hatched out some time today; one is not quite as steady on his feet as the others; they were within a few feet of the nest when we first found them - at which time they gave themselves away by running instead of crouching (this instinct seemingly being to run to a distance of 20 ft or so and then crouch). In the nest was the fourth egg slightly pipped. On opening this we found that the fourth bird was

Photo of young running

Oxyechus vociferus

at least 36 hours behind the others, having a piece of yolk larger than a pea still to absorb into its abdomen, although it peeped weakly and struggled very feebly when released; when placed in water it sank with scarcely a struggle and died. The other three would take to the water voluntarily if pressed in jumping, paddling rapidly but making slow progress because of their narrow feet. When placed back on land they began to totter away from us, going rather slowly and peeping quite a lot. At this one of the adults which was standing 20 ft away and crying at intervals (both were silent when we got there and showed no wounded-bird ruse, being less demonstrative than some) came up and settled beside one of the chicks, fluffing out her feathers and calling. The chick immediately burrowed under and subsided while the other one came running over peeping and snuggled under also. Moved slightly when on the parent, rose up in alarm and the chicks, instead of crouching rose up too and began

to scuttle away. At this the parent turned back (I was motionless again) and called them to her, brooding them as before — instead of leading them away from us. Later we scared her off and they ran down a near by ditch full of loose dirt and then, when they were about 20 ft. away, they did squat down, crawling partly under pieces of loose dirt, and running only when actually prodded up this time.

(white)

1

Pelecanus erythrorhynchus

7/8/30. Los Banos Game Refuge, Merced Co. Calif. 3 observed resting and preening, standing in shallow water across line on Kolb land.

7/17/30. L. B. G. Refuge. Flock of about 30 seen at S.E. ~~end~~ cor. of refuge, rather high up in air, circling and assuming wedge formations, after noted.

7/18/30 L. B. G. R. about 39 to the ~~east~~ west of the Refuge.

7/22/30 L. B. G. R. One seen just south Pitts Lake. Standing in shallow water. Later in A. M. Flock of 200 or more circling slowly like curling smoke above N. end of Refuge, moving slowly east. The day is only just beginning to warm up (having been unusually cold all morning) at 12 o'clock. This may have something to do with soar-ability at this time. Later this flock stayed during the afternoon on the Button Willow pond.

7/25/30 Flock of about 75 flushed from Mud Slough at junction with Salmon Creek, L. B. G. R. at 11 A. M.

7/31/30 Flock of about 11 individuals soaring in the air.

8/6/30. Flock of 15 flushed near Mud Slough

9/21/30 Los Banos G. R. Mud Slough, S. end. 1 bird flushed, in company with flock of ducks.

Pelecanus erythrorhynchus

3/16/31 L.B.D. Refuge – Buttonwillows, Mud Slough, Ruth Lake, Floodlands adjacent to Salmon Slough. A total of about 75 are staying on the Refuge constantly (see censuses for this period). They do not stay in a single flock but are found scattered about, as indicated above, in groups of 3 to thirty or more. They have their beak scales.

5/2/31 L.B.D.R. The pelicans have been with us since the above date, and in approximately the same numbers.

See under Nettion carolinense (p1) for account of difficulties of rising when observer approaches on windward side of a stiff gale.

Pelidna alpina sakhalina

4/11/31 Los Banos Duck Refuge, Los Banos Merced Co. Calif. Small permanent slough n. of Ruth Lake. Two closely massed flocks of about 125 each feeding, intermingling with a few westerns.

4/20/31 L.B.D.R. n.w. corner - just across the line - 2 flocks of about 50 each feeding in shallow flood pool.

Pentheles nufescens barbami 1.

10/1/31 Alpine Creek Ranch (Ralph place), San Mateo Co., Calif. Bunk house, 9 A.M. one came up on an oak twig to within 5 ft, as I stood on the porch. Don't remember seeing any previously here, although I may have.

/

Petrochelidon lunifrons.

5/28/30 . ~~Mo~~ Los Banos Game Refuge, Merced Co. Main bridge across Mud Slough. Colony of 61 nests (occupied) beneath bridge. ~~Each~~ one nest an ad. swallow was hanging dead, caught by a short horse-hair by one foot the other end of the hair being imbedded in the nest.

3/16/31 L.B.D. Refuge Same place as above. See census of about 2 weeks ago for mention of first appearance this year. The small flock of about four pairs has now swelled to about 100. They are flying continually in and out under the bridge, nest building, and gather their mud from the banks of the slough 20 yds or so from the bridge. A flock of about 75 tree swallows, most of them resting on branched wire fence near by (see Pindo prog.)

5/31/31 L.B.D.R. Main bridge. All of the 150 or so nests empty, with entrances soiled with excrement (egg found in one), so that the swallows must have brought off young already. I noted in this regard that not nearly as many swallows as formerly are there (about 1/2) so that they must be out wandering (perhaps gone permanently?). Are not contained dry skeletons of several young

Petrochelidon lunifrons 2

nearly ready to fly.

Phalacrocorax auritus albociliatus

Nov 28, 1931 Lake Merritt, Oakland, Calif. See under Larus philadelphia, pages 3 and 4 for characteristic attitudes and also difficulty in rising from the water. We saw one perched on a post (drivien into shallow water) with its wings outspread, as described by Hoffmann (Birds Pac. States, p. 19), too. Why, I wonder, do cormorants and sea lions both sit with that peculiar heavenward-directed tilt of the head (see drawing under Larus philadelphia); I am thinking now of Point Reyes, Calif., where one may see both of these creatures at the same time, in this grotesque attitude.

Phalacrocorax auritus auritus

Farallon Cormorant

7/22/30 Los Banos Game Refuge, Merced Co. Calif. Mud Slough. Cormorant setting upon dead top branches of low willow by slough, preening its feathers. Companions for 1/2 mile in every direction.

7/23/30. L.B.G.Ref. Ruth Lake. One swimming in lake.

4/11/31 L.D.R. Ref. Ruth Lake. Two seen.

4/28/31 L.B.D.R. There must be a migration of these just now for I saw three or four yesterday and as many already today 6:05 P.M. They are seen, usually flying fairly low, from one body of water to another — no particular direction (there goes another while writing this).

5/21/31 L.B.D.R. These birds more numerous than ever — saw 13 on Ruth Lake 5/9/31, in groups of 2, 3 and 4, mostly. Today I note many of them flying across the sky in 2s — presumably paired.

6/1/31 L.B.D.R. The cormorants are still with us.

Poor will
Phalaenoptilus nuttallii californicus

9/~~2~~19-20/31 Alpine Creek Ranch, San Mateo. Co. Calif. Cornfield. Heard a poor-will calling several times last night — was unmistakable.

Pica nuttalii

2/15/30 1 mi west of West Butte Sutter Co. Calif. Birds occupying valley oak bottom land adjacent to slough in considerable numbers. Several pairs observed going in and out of nests, and at times bringing sticks to the nests.

2/16/30. Birds numerous not only at point given above, but for considerable distance south along river. [Notes taken by Lindsdale on this species throughout trip.

3/16/31 21 mi S. of Los Banos, Merced Co. Calif. and 1 mi S. of Sweeneys Ranch. Foot hill country with Valley Oaks? the predominant tree. This area formed a sort of pocket or triangular valley between the first high range of foot hills and the main crest of the mts. It was greener in here, with more creeks and much more lush vegetation, in contrast to the almost totally bare, wind swept range of foot hills to the north (just traversed). Old and new nests were very abundant in the oaks (I only

Pria metallii

saw the first 1/4 mile of what looked like a big valley and the magpies that I saw were flying about mostly in 2s. Spent handly 10 minutes here but saw 3-4 magpies just across the canyon and others in the distance.

Pica pica hudsonia

11/16/30 Road between Cedarville and Ft. Bidwell, Modoc Co., Calif. Straggling flock of 8 or 9 flying through overhead during snow storm.

Pipilo fuscus

November 22, 1932 Oakland (1515 E. 31st St.), Calif. I had put a live towhee into the sparrow-hawks cage, and while the hawk was merely watching it, without having as yet taken to active pursuit of it, I noticed the behavior of the towhee.

I was struck by the large number of entirely useless, energy-consuming motions it made by the towhee as it moved about the floor of the cage investigating its new surroundings. Instead of merely hopping straight along when going somewhere, and remaining still when it was not going in any particular direction, the bird was eternally hopping about in the same spot, when it was not going somewhere. It would be facing in a certain direction, and then with a jerk would flirt its whole body around in a 45 degree angle, landing in the same spot as before but facing in a new direction. Then hardly had it landed on the ground when it would give another hop and land facing in the original direction, or in some

other directions. Thus, by such extravagant motions it would pretty well box the compass in a few seconds. Of course it must be remembered, that a small creature uses proportionately much less energy during violent ~~some~~ exercise than a large animal doing the same things.

I noticed, too, that when the bird was momentarily at rest, as at the end of one of the above mentioned hops, its tail would invariably sink down until its end rested lightly upon the floor. But simultaneously with the next hop of the bird the tail would be jerked ~~off the ground~~ briskly into the air at the first move of the bird's body, thus insuring (whether adaptively or not) ~~that the~~ tail was not rubbed or dragged along the ground.

Dec 22, 1932. Alp. Ch. R. 7:30 P.M. Dark, cold, damp, but not raining. Discovered a towhee roosting in a dense Lowland Fir (Abies grandis), by means of my flashlight. The sort of dense foliage where the bird was is described under

Lophortyx, p. 436. The bird moved its head from side to side apprehensively when I held the light within 3 feet of it, but it did not fly.

January 24, 1933. Alpine Creek Ranch. Brown towhees seem to have a more strongly developed tendency to enter dark, confined spaces than most other birds. I found one dead today in a rat trap (inadvertently hopped upon, I think) which was a foot back from the little square hole which leads under the shack. Of course it is not black under there, but it is dark and confined, with no vegetation, just a pile of boards. Last summer (or some time long ago) I caught one in one of my rabbit box traps. The treadle is 18" back from the door, and quite in the dark (as compared with out door illumination). The bird probably entered in search of the grain with which I baited the trap.

March 21, 1933. Alp. C.R. ~~[illegible]~~ Like the thrashes (Toxostoma rediviviums sonomae, p. 18) two towhees paid no attention to a dead quail although they passed within a few inches of it.

Pipilo fuscus

March 31, 1933, alp. C. R. See under Zonotrichia coronata, p. 2, for a list of stomach examinations, and weights, which include this species.

Pipilo maculatus

1.

March 20, 1932 Alpine Creek Ranch (Ralph Ranch), San Mateo Co., Calif. by Quail experiment measure; time, about 6:35 - 6:40 P.M., dusk, sun behind the hills for a half hour or more. A towhee has been heard giving what is generally termed his alarm call, that is, the rasping single note characteristic of the bird. I heard him giving this same call at about the same time last night; in both instances the call lasts for only a few minutes (4 or 5?), and then subsides as darkness wraps the thickets out of sight. This "bed time song" of the towhee for such it seems to be — reminds me of a similar note of gambel sparrows, similar as to occasion, duration, etc.; not similar in actual sound. I remember the tinkling "alarm" pipings of the gambels particularly when they gathered in flocks to roost in certain ~~any~~ dense ornamental trees in the cemetery

just south of the town of Pomona, California. ~~Also~~ The note was the same as their usual alarm note, just as the towhee's was also the same as his alarm note, but the fact that it was almost invariably uttered each evening, just at roosting time and with a certain persistance, makes it take on a certain significance at that time. I wonder why the birds feel impelled to do this.

The gamblers are a flocking species, and one might perhaps suggest that these calls were for the purpose of keeping the individuals of the flock together during the last ~~hours~~ minutes of dusk before they settled down for the night. The quit-quitting of quail which I have noted (see under Lophortyx, the account of a flock going to roost, Alp. Creek Ranch, about Sept., 1931) previously, may be for the same purpose. However, what shall we say for the non-gregarious towhee?

Pipilo maculatus

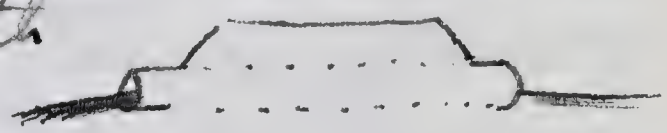
Mar. 26, 1932 - Alpine Creek Ranch, Calif. Tonight, at 7 P.M. I heard a brown towhee (P. fuscus mesus) giving its alarm note just at dark (see previous notes on bedtime alarm call, pp 1-2). Of course I don't know that something had just disturbed the bird, but the hour and the circumstances indicated that it was calling for the same reason that the spotted towhee, the gambel sparrows, and others, call - whatever that reason may be. The brown towhee's call was the usual sharp metallic alarm chip.

Mar 27, 1932. Early this morning, while the shadows still lay upon the hillsides and the dawn was as yet hardly more than a dim twilight, I heard a spotted towhee call just as it had done during the twilight of the evening; what it may mean at this time of day, if anything, I cant say.

This evening, just at dusk (about 7 P.M.) I heard, all going at the same time, one spotted towhee,

one brown towhee, and two wrentits, each after his own manner, of course. None of these had been reiterating this until about the time of meeting that I mention. This circumstance recalled to me the beautiful vermit thrush songs which I used to hear every evening when I was camped at Wallowa Lake, Oregon, during late July, in 1929. The towhees would become markedly active in their singing just at dusk, and sometimes there would be two or three of them within ear-shot at one time.

May 29, 1932. Alp. Br. Ranch. Slough land bordering main road where drain pipe passes beneath



Found a nest of four nearly fledged young on the ground in a clump of weeds growing on a gently sloping bank.

June 6, 1932 ← June 6. Alp. Br. Ranch. Barley field below R.D. Saw about three young in a certain thicket, accompanied by

their parents. These young had a certain streaked, fluffy, ragged immature look, but were definitely on the wing and able to move about easily.

June 7, 1932

June 7, 1932. Alp. G. Ranch, by water tanks and spring, back of McLellan's house. While beating for quail I flushed a towhee from a nest of three eggs on the ground, in a tangle of weeds about a foot high. The weeds formed a patch about 20 ft x 10 ft at the edge of a big brush pile which, in turn, was at the edge of dense woods. The weed patch was not very dense, and the nest was hardly more than just covered by the adjacent weeds. The surprising circumstance was that in the same brush patch, with the disturbed owners of the eggs were at least three ragged feathered, short tailed young (same stage as those June 6), which evidently belonged to them also. This appears like a second laying, then.

Pipilo maculatus

Jan 1, 1933. Alg Cr. P., Cy Q. D. Saw a spotted towhee standing upside (nearly, that is to say) on a swaying sunflower head, extracting seeds just as do the jays (Aphelocoma, 4, Cyanocitta 3,) and other birds (Zonotrichia, 1, Carpodacus 3).

March 30-April 1 - See under Zonotrichia coronata, p. 2. for list of stomach examinations which include this species, with weights.

Planesticus migratorius
progrinus.

capturing worms from further
neighbors; some may have arisen
from the awakening sympathy
felt by the birds at this season.

Pisobia minutilla

7/22/30. L.B.G. Refuge, Merced Co. Calif: N. end Ruth Lake at edge of shallow muddy pool. Flock of nearly 100 feeding. (12 seen next day in same general region.).

9/7/30. 2 seen on Mud Slough, L.B. Game Refuge.

9/20/30. L.B.G. Ref. - overflow from Salmon Slough - flock of 25. These together with Totanus melanoleucus found on this day in flocks along edges of ploughed areas now partially inundated. This in contrast with the ducks which are found only on the more grassy, tule-margined, ponds of greater age

Planesticus migratorius propinquus

February 6, 1932 Lake Merritt, Oakland, Calif.; time about 1:30 P.M.; a drizzling rain falling. In passing through the Lake Merritt grounds, along the curved drive, I was struck by the immense number of robins on the extensive lawns there. On either side of the road, as far as the eye could see, the grass was dotted with robins, apparently getting the angleworms that the rain had brought to the surface. Most of them were either hopping forward purposefully or standing in expectant attitudes, with bills pointed at the earth as robins do when seeking for worms. Now and again, when two birds came close to each other in their maneuvers, one would dart at the other and in some cases even pursue him on the wing for a few feet, zigzagging just above the grass. Once I noticed that one of the pursued birds had a large (yes, really large) worm in its bill; it was successful in dodging its pursuer. Not all the chasings may have been for

Plegadis guarauna

White-faced Glossy Ibis

5/29/30. 2½ mi. se. of Las Barras - Tule Marshes. Seemed to be a breeding colony; flocks observed flying toward tules.

5/6/31 L.B.D. Refuge, Button willow pond. A flock of 7 seen flying westward a hundred feet or so up; these are the first seen this year.
3/4 hr. later. A flock of 11 flying low down past 2nd Butte camp westward.

5/21/31 L.B.D.R. by Salmon Slough overflow - 2 seen feeding on mud flats.

5/31/31 L.B.D.R. Individuals may still be met at various points, feeding - and occasionally in flocks of 15-20 flying overhead.

Podasocys montanus

WH Plover.

11/28/30 about 12 mi S. Los Banos and 4 1/2 mi from the foot hills, in open, nearly barren, dry flat. One bird; very tame; walked slowly away from us. There were several killdeer scattered about and the path of the plover happened to cross that of the killdeer. Just as they met the killdeer coming in front of the plover, the latter jabbed at him with its bill, although not turning out of its way to do so. The killdeer hastened a little out of the way but did not fly.

Podilymbus podiceps
Pied billed Grebe

1

7/23/30. Los Banos Game Refuge, Merced Co. Calif. Moraly Pond near ~~Hog~~ Mud Slough just opposite Hatto "inset" pine, on east side M. Slough. Pair of birds seen.

3/29/31 L. B. D. Ref. near 3 l. towers. 1 seen. Others have been noted occasionally during the last 3 weeks.

5/6/31 L. B. D. Ref n.w. of towers near rd, in flooded rush-grass land. One was sitting on the nest about 50 ft from the road. She stayed on as I went by and flushed only after I had stopped and approached on foot. The water was too deep to wade, but at 20 ft I saw 4 eggs and think there were no more. Half an hour later as I drove by I saw her hurriedly drawing pieces of the nest over the eggs apparently pulling and leaving. I was clear out while she was still doing this, but she slipped off anyway, although remaining within a few feet of the nest. The covering up process was done by drawing the stuff from one side of the nest over the eggs towards her as she stood up facing the eggs.

5/7/31 I put the dummy camera up within 10 ft of the nest and left immediately

Pody Podilymbus podiceps

but the bird was learned and never went back and deserted. Next was the usual "floating mass of vegetation" moored to "rush grass" stems in a rather open stretch of the flood-slough area.

5/23/31 ~~Two nests - seemingly of this bird - found by Dr. Gayle Pickwell in area just w. of 3l. tower (he photographed them).~~

5/31/31 A nest - presumably of this species - found in Salmon S. Lough flood lands which were recently drained considerably, leaving tracts of bare muddy land where the water weeds are drying up and giving out an odor of decay. Originally moored (floating) to rush grass, it had now sunk down and rested on dry mud - a large platform 18" diam. of water-vegetation, covered up at the last time, apparently. One very small egg (34x23 mm) was found half buried in the mud beside the nest; it had no yolk.

6/11/31 Z.B.D. Riley "coyote pond", S. side Refuge. One seen trying to kill and eat a fish too large

for it. The fish was, I think, the same kind as the one of Thoreau a specimen of which here; at least it was about that size. Twice the grebe tossed his head up so that the beak was nearly perpendicular and got the fish, still wriggling it seemed, half way down, but each time he had to dis gorge it again and there after he each time let go of it (it must not have been quite swum away) and then facing it up, shook it and dropped it and shook it again and then took, once more to swallow it. The final outcome I don't know, for the grebe drifted behind a projecting shore and grass where I could not see.

Psaltriparus minimus minimus

2/8/30 ① Bridge in Strawberry Canyon below Botanical Gardens - Berkeley, Calif.
Seen working on nest, which was represented by about 4" of material out on end of branch of live oak, in thick foliage. Bird kept nesting past with small feathers in bill, at intervals of about 1 - 1½ minutes. Remains of 2 old nests in same tree.

4/5/30 Bird flushed from nest on upper road. Strawberry Canyon, Berkeley, Calif. Nest about 10 feet up in live oak. Bird probably in early stage of incubation, since it made no fuss.
Nest ① (see above) Bird flushed. Grinnell says bird is probably still with eggs.

4/5/31 Los Banos Duck Refuge, Los Banos, Merced County, California. Kauffman Ranch, on Mud Slough just across the Refuge boundary. One solitary individual seen hopping about in the branches of a willow and feeding; it was the only one present there.

Cinnamon Teal 1.

Querquedula cyanoptera

5/9/31 L.B.D.R. by Salmon Slough. Flushed from 2 nests, one of six eggs, the other of 7, in rush grass growth.

photos

5/21/31 10 a.m. L.B.D.R. near alone ♀ flushed from a nest of 3 fresh eggs in a clump of yellow clover and fox tail grass growth in the middle of a dry hot field (1 photo of terrain) 100 ft from the nearest water

1 photo eggs, marks nest.

5/23/31 noon. Nest now has 5 eggs.

5/24/31 Nest mentioned above (5 eggs). There are no eggs now and I can find no traces of nest — or, indeed, of the marauder responsible.

6/3/31 L.B.D.R. by 3 l. town (100 ft.) a ♀ with 8 young about 8" long swam and her

Querquedula cyanoptera

young ones chased for 15 minutes but without avail. The ♀ kept up a loud anxious quacking but would not desert her young even though I had them cornered in a small, but deep, pond about ~~15~~ 50 ft × 30 ft. The young kept all in a little bunch except when I charged towards them and momentarily scattered them, that is — all except one, and he, more wary than the rest, stayed just behind the fringe of reeds bordering the far corner of the pond, whereas the rest of the young stayed just in front of it swimming and trying to keep with the ♀. As a result I saw this eighth duck only twice. The rest would dive when hard pressed, reappearing 20 ft away sometimes, or give shrill little peeps and swim very fast if I was not too near, but they always tried to get back to their old woman each time I scattered them. The ♂ I never saw.

McLellan says that a tots next night near the spring nest by the new duck enclosure (S.W. cor Refuge) was broken up by squirrels (he thought). The eggs, he said, had holes in them of a good size such as a squirrel might make.

Querquedula cyanoptera

[still 6/3/31] The two nests (of which I photographed one) in the Salmon Slough overflow lands on 5/9/31 are no longer to be found; this of course proves nothing much as it is nearly a month since I was there.

6/4/31 See Aigelaius 5 for account of first a blackbird and then a stilt chasing a pair of teal

See Mustela 4 for very possible cause of breaking up nests mentioned on p 1 of Querquedula.

6/7/31 Mud S lough, S. end. about 7 young with ♀; they went away so quickly I could not count accurately.

Querquedula discors

3/27/31 Los Banos Duck Refuge, Los Banos, Merced County, California near the 3l. tower and Mud Slough. Donald McLean told me that he saw one at this place; the white crescent of the ♂, he said was particularly distinct.

6/2/31 L. B. D. R. - Salmon Slough overflow lands by Rabbit trap no 2. One seen in shallow slough in company with a pair of Cinnamon teals - Roy Wallentangs says he has seen a pair off and on for 3 months, mostly near Mud Slough.

Recurvirostra americana

A VICE

5/28/30 Los Banos Game Refuge. 7:30 A.M. Group of 3 or 4 birds observed "tipping" like a duck in relatively deep water. They would disappear all but tail and ~~butt~~ posterior 1/2 of body, rear aiming thus for 3 or 4 seconds. One young bird in Mud Slough, about 1/3 grown, seen across the slough. When I went over to catch it, however, although Cheney had been watching all the while, it was not to be found, even though I tore up grass all around.

Olson Pond. 4 young observed walking back and forth along edge of pond. When I approached they entered the water and swam away. Two crossed a narrow channel and entered Tules; two tried to hide in tule patches in open water. I saved only first two. One of these at my near approach "froze" while still floating in the water. It lay low in the water with bill pointed up toward me and tibio-tarsal joint ("knee") held out of water:

Photos of birds taken.

5/29/30 Upper end Mud Slough. Two 1/2 grown avocets feeding 3 ft from shore and 15 ft. from us in the car. They dipped their bills and probed with every other step – i.e. each time the

right foot came forward in the case of one watched closely. Often after raising bill from a probe it would move its mandibles as a duck would and appear to be swallowing. Often birds would submerge front half of body as far back as elbows of wings at each probe. The frequency of their probes was remarkable – one to every other step as a rule, though not always. Bills long and somewhat curved but not as much as adults. Some brown on neck and head, but paler than ads. When going from one side of channel to other they swim with ease of ducks. (Movie photos by Cheney taken).

2/28/31 L. B. Duck Refuge, Merced Co. Calif. This is first date this spring for avocets seen by me (McLellan tells me he saw them 2 or 3 days ago). Flooded water by road running from 3 l. town to Buttonw. dam. 7 adults (with orang-buffy heads + necks) and one imm. all standing in shallow water dozing with bills tucked beneath (eyes) left ~~[illegible]~~ regularly at 5:40, with sun low over into in west.

3/21/31 L. B. D. Refuge – Permanent small slough

n. of Ruth Lake. Flock of about 9 feeding in more or less association with a flock of about 25 dowitchers. A few avocets – in gradually increasing numbers – have been seen every day of observation since 2/28/31

4/12/31 L.B.D.R. see under Aquila page 6 for avocets giving chase to eagles.

5/9/31 L.B.D.R. and Butte camp. Saw an avocet chase an egret 100 yds or so when it flew over the avocet territory. The egret zigzagged ponderously but to no avail.

5/23/31 L.B.D.R. Small pond. Slough n. of Ruth Lake. 3 young as large as killdeer sunning on muddy shore. Avocets seem not to tolerate infringement of territory rights, for I saw one repeatedly alight near another and run at it (the other vacating) when I was by my presence driving many avocets birds out of their normal domains.

3 photos S. of Ruth Lake. Avocets nest on dry, white (alkali) cracked mud sparsely dotted with weeds (photo) and only 5 ft from a stilts nest. Both were in small natural depressions in the dried mud, but whereas the stilts nest

was sparsely line with small, short, dead weed stalks, that of the avocet was barely furnished, with a few fine straws and a few little balls of mud - almost as though the mud had been responsible.
Avocet 3 eggs; stilt 4. Shows remarkable tolerance, especially for the usually hostile avocet (there is plenty of mud flat for a less closely grouped nesting plan. The adults of each pair while I was there showed no hostility to one another. One of the avocets in particular kept squatting down at different places along the slough margin, almost as though "pretending" to have a nest there instead of where it was. Above 2 nests

5/31/31 (See note on hatching of the stilts under Hemantopus 8.). There are now 4 eggs in the avocet nest. I left hurriedly without taking any photographs.

6/4/31 L.B.D.R. s. side by Mud Slough. Two of them chasing a red tail at about 100 ft elevation. The red tail dodged by circling thus (top view) ÷ the sharp turns representing the dodges.

4/5/30 Regulus calendula
Strawberry canyon, Berkeley, Calif. Upper road. Song of Ruby crown.

Sayornis nigricans

4/5/30

Diptera not taken; hymenopterous insects preferred, in food habits. Mammae flies and Musca taken only toward end or beginning of season when other food is scarce. (Grinnell say).

5/6/31 Los Banos Duck Refuge, Los Banos, Merced Co. Calif. Bridge across irrigation canal 2/5 mi no. of Hotel. Two young 1/2 grown in nest. In trying to pull one loose from the nest the clung onto the bars living very lightly with his claws. I scared the other one so that it fell out of the nest into the water beneath. It swam strongly and made for a floating bridge support up which it tried to climb. It was too steep an incline however, so the youngster continued to paddle support. I measured it at this time. Pin feather stage in primaries and secondaries; not more than 2/3 grown at most.

Date

Alpine Creek Ranch (Ralph place), San Mateo Co., Calif. By lunch house. I am not sure of this date, because

at the time I did not think of the observation important enough to write down; instead it is being written April 7, 1932. I think it was about the same day as that on which I made the observations on the inability of a flicker to fly well after dark (see under Colaptes cafer collaris, usually the night before); the two observations were made at the same place, and could not have been far apart in time.

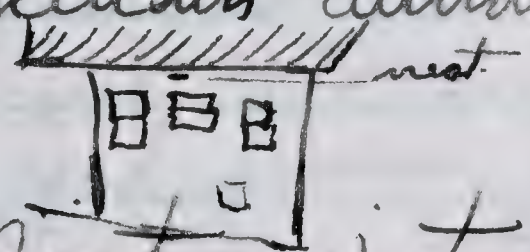
Well, the observation was that for the past two or three days I had observed a single phoebe from the kitchen window of the farm house. This phoebe had never been seen there by me before; also I saw no other during the two or three days before nor during several days there after — only this one. I can't swear that there was no other, because I didn't search the premises, but in view of later developments I think there was no other at the time. This one bird was noticed chiefly when it perched on an oak branch a few feet from the window and called; whenever it was seen it was at this same end (south) of the

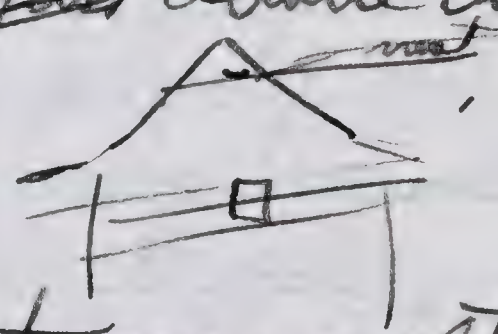
Sayornis nigricans.

house.

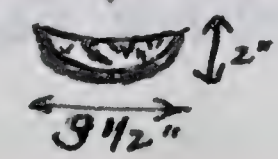
April 4, 1932. Same place. Today Gordon Tuve and I noted that there were two of the birds this being the first time that we had seen a second individual, although we had been on the grounds about 5 days of every week (see record of attendance during this time under "Census - Bonsall notebook, Chipmunks, Alpine Creek Ranch"). They were at the same end of the buildings that we have been and had always been seen, and they frequented the same trees, ~~sitting~~ perching within a few feet of one another, at times. We did not look to see if there were a nest.

April 6. Today I did look for a nest, and found the start of one, high up under the eaves ~~just~~ above the kitchen window. I

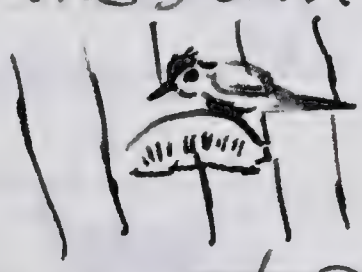




first saw it just as one of the birds was flying from the spot; the nest was very evidently new being perhaps 3½" long by two in height



April 8, 1932. Same place as above. Today I only noticed one bird, but then I didn't spend any time looking. The nest is only slightly larger than it was on April 6. At 9:12 P.M. (about for almost 2 hours) I opened the window 6 ft below the nest with much squeaking and commotion of the pulleys, and upon crawling half way out and turning the flashlight upward, ~~not~~ discovered one of the phoebes ~~sitting~~ perched upon the rim of the nest.



as seen by me from below. At that moment I dropped the window screen, which fell with a clatter and crash upon the ground below, but even at this the phoebe did not leave, although she turned her head from side to side, eyeing the glare of the flashlight. I left her still at the nest. This is one more indication of the reluctance with which birds take wing after dark (for other examples see

under Colaptes caper collaris, page six and also preceding pages).

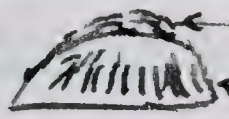
April 11, 1932. Same pair. The outline of the nest is nearly complete, although the mud part of it is not. Curiously enough, the lining has been put in before the mud foundation has become anywhere near finished. Seen from below it looks about like this:

or from the side like this:

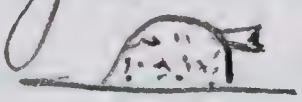
I thought that perhaps some of the mud foundation might have fallen away after the foundation was had been completed and the lining was being put in but I could find no mud on the ground below.

April 13, 1932. Same pair. Didn't see either of the birds this noon, but noted that

the nest was approaching completion.



April 15, 1932. Pair mentioned above. The nest appears from below to be complete. Tonight I saw by means of a flashlight, that one of the birds was roosting on the nest; presumably it has done this every night. The completed nest is so large that now only the tail of the bird can be seen protruding beyond its edge.



Sayornis ~~nigricans~~ sayus

5/30/31 Mt Hamilton Ranch 15 mi. S. of Los Banos Merced Co. Calif. in small bramble shack at 8:30 P.M. (Dark) Caught both birds in the small room wherein they had built their nest. They were quite unable to see the open window through which they normally entered and left - now tho the flashlight was shining - and fluttered blindly up at the ceiling until tiring they sank down and were caught. The nest contained young which we could see were in the early pin feathers stage (fuzzy heads) but we did not investigate further.

Speotyto cunicularia hypogaea

7/9/30 Burrow located, with numerous pellets about, on west side of Los Banos Game Refuge, near Hatto. Apparently not used at present

7/16/30 Los Banos Game Refuge, South Side. Burrow similar to above located; similar appearance of disuse. (30 min. later). Occupied burrow found about 100 yds away; stained with and feathers and down; a few pellets; and sitting at entrance.

7/17/30 L.B.G Ref. south side just west of Mud Slough. 2 birds seen perching on knolls near to gether watching me and moving restlessly about. This is 1/4 mile from and noted 7/16/30 and seems to be another pair (abandoned?) burrow noted near here. Later: confirmed; fresh burrow found. One bird calls and watches me; perhaps young or eggs present.

7/18/30 South side L.B.G. Refuge. Abandoned(?) burrow with pellets scattered all about, also the feathers of a meadow lark strewn about entrance in great abundance.

S. side Refuge where Mud Slough comes in. Three fully grown owls flushed from one burrow. Evidently the young are grown to full size at this date.

Speotyto cunicularia hypogaia

5/8/31 L.B.D. Refuge. Ever since about 4/4/31 I have been seeing these owls perched in conspicuous places such as fence posts in broad daylight, although mostly just outside the Refuge boundaries, as Standard Oil eucalyptus etc. (those inside Refuge listed under Linsdale census). [About 4/10/31 or a little later Grinnell spoke of a nest with young being found up north of Berkeley somewhere].

6/3/31 Ever since I first set the carnivore-rabbit traps out in their present position I have noticed big owls almost every trap using the three or four stakes at the S. side of the place by Mud's laugh, as perches. These stakes were put in last year by me to mark rabbit and sq. burrows. Certain stakes nearly always have an owl upon them when I drive by, and the owl nearly always stays put even when I pass close. Evidently these owls perch on the ground in their chosen habitat only because they have to, there being usually nothing to perch on, and they welcome any eminence which will give them a wider horizon.

6/6/31 Pebble Beach property just e. of s.e. cor L.B.D.R., by big hotel. Young must be on the wing for I see three owls nearly all the times over by the corner. They are quite active, and continually fly from knoll to knoll; one made a wider excursion and flew 175 yds out to near the car, remaining on a knoll right near a rabbit, for ten minutes or more before going back. Part of the time he eyed me very fixidly. See Canis ochrogenus 1516 for account of two of these owls attacking a coyote as it passed through their territory.

There are four of them now and foraging — for that must be the purpose of the excursions & now (12:15) very active, the two old birds (?) being constantly on the go, flying suddenly here or there and upon alighting giving a little run and apparently (quietly pass away) picking up something. Often at this juncture one of the young (?) will come flying out to meet it and their heads will for a moment be close together as though it were receiving food, then the young one will fly back

Speotyto cunicularia hypogaea

to the little knoll where the ~~two~~ young seem to spend most of their time, and the parent will presently make another dash. Once one of the parents (?) after picking up something in the short (6") marsh grass which is adjacent to their territory rose above this grassy bank and hovered just like a sparrow hawk, and for as long, and then glided down into the grass again, just as do those birds. I think that they may be getting grasshoppers. Yes, the parents are feeding young. Saw the hovering again.

This reminds me: Once about two years ago — the night I went to see The Front Page, whenever that was — my attention was attracted by a peculiar bubbling note coming from a vacant lot on Wilshire Boulevard about 11 P.M. Stalking it, I came within 6 ft of a Speotyto perched in a small (7 ft) ornamental fir tree by the sidewalk under the glare of a nearby street light. It was a section of Los Angeles rather recently built up — but there were houses all around, no nearby hills that I could see, and automobiles

whizzing by all the time.

3:10 Pair feeding young again: when either of the adults comes flying in with food the youngster, there is only one in sight now, ~~goes~~ gives a little run and then flies out to meet the parent. Both land as they meet and the youngster immediately seizes the food and swallowing it turns away without ceremony or else it lays it (or part of it) on the ground and then picks it up and swallows it. In either case it promptly goes back to the mound – which must be the burrow – and stands there until another point is made. The parent, too, shows little ceremony, as soon as the youngster has snatched the food from its bill it turns and flies away for more. This feeding business has been going on briskly every time I have looked since about 10 or 11 a.m. A ground squirrel has off and on been sitting 4 or 5 ft away quite unconcerned by it all – Burrows observations notwithstanding.

5:55 P.m. Sun behind clouds, cold strong wind blowing; none of the owls present

Speotyto cunicularia 6
hypogaea

now; they certainly appear dumbed in their activities, today at least. About half an hour ago there were five all out at once.

Feb 4 (ob.), 1933. Saw one of these owls as it flew across the road about 100 yds. w. of the west end of Dumbarton Bridge, San Mateo Co., Calif. There are several hundred acres of flat land — layed out in lots by erstwhile ambitious real estate boomers, but with no houses, only a few lamp posts which burrowing owls perches for sparrow hawks, and enough dense covered with thick luxuriant grass and weeds. Birds are few and scattered, sparrow hawks are common. Ground squirrels appearing in numbers. This is the first owl I have seen here.

Squatarola squatarola

1.

L.B.D. Refuge, Merced Co. Calif.

3/21/31 A flock of 15 heard calling (single note), and a moment later observed to sail down and alight on some flooded grass-mud flats at the Button willows and feed — in company with a few least sand pipers, which looked minute by comparison. Two "color phases" were noted, those with the lighter plumage being individuals in winter plumage and those with the darker being birds in which the summer plumage was commencing to appear.

4/11/31 L.B.D. Refuge, Ruth Lake. A flock of about 500 — with a great many in the rich breeding plumage with jet black underparts — seen resting and feeding.

Steganopus tricolor

5/5/31 Los Banos Duck Refuge, Los Banos, Merced Co. Calif. by 3 l. towers. One bird in full plumage seen on floodland water close to the road as I drove by. This is the first seen on the Refuge.

5/31/31 L.B.D.R. by 3 l towers. a little flock of about 13 riding the waves.

Stelgidopteryx (or Riparia?)

4/5/31 Los Banos Duck Refuge, Los Banos, Merced Co. Calif. Kaufmann Ranch on Mud Slough, just n. of the Refuge. Four of these seen; three were chasing a fourth up and down past the high banks and over the willows, as though 3♂s and a ♀. Their cry was a single high pitched metallic note, somewhat roosting (Oldham).

Sterna forsteri ~~#~~ 1

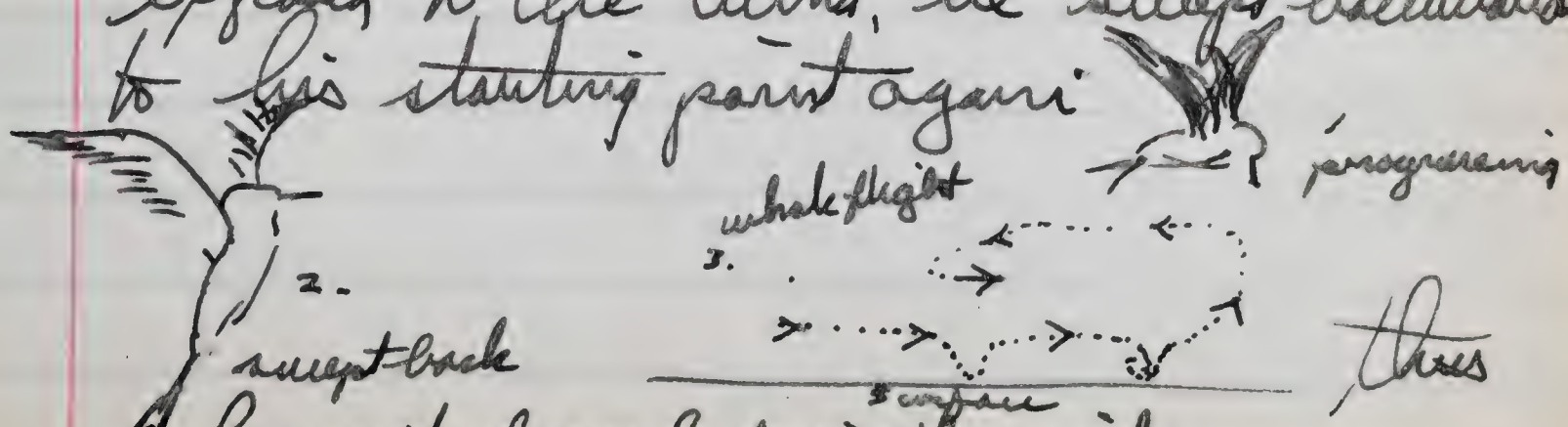
4/11/31 Los Banos Duck Refuge, Los Banos, Merced Co. Calif. Vicinity of the Button-willows. Three individuals seen flying over a shallow slough and plunging - This is the first record for this year.

4/29/31 L.B.D. Refuge. 2nd Butte camp. Some if not all of these terns - which are now common all over the refuge - are paired up, it seems. This morning I watched two couples flying about near each other, yet each couple by itself; the hindmost bird of each couple followed closely the bird in front in all its erratic maneuvers. At times one of the birds (the front one I guess) would hover stationary with a peculiar incessant rasping note, whereat the other bird would glide up to it and almost touch it, after which they would continue their flight as before.

5/8/31 L.B.D.R. For note on compatibility with Chlidonias see note under latter, page 2.

6/7/31 L.B.D.R. just S. of 3l-tower; about 5:30 P.M. (hard wind blowing). About twenty terns of this species congregated (unusual abundance)

over the small pond at this point, feeding. They were not plunging but were hanging facing the wind, or rather moving very slowly against it, a few feet above the surface of the water and watching it. When ever a tiny gnat or other land insect was blown from the opposite shore onto the water by the fierce wind it would be spotted by a tern which would immediately sink down until its forest was about 2" above the water, and then, still flapping, reach down its full - just the tip - into the water, rob him, and rise again to the original height of 3-7 ft above the water. The terns were constantly descending, grabbing an insect, and rising again all over the pond. When a tern by slow flapping against the wind, finally reached the ~~we~~ lee shore he would rise a little higher than before, facing more vertically, and with the thus greater wing surface exposed to the wind, he swept backwards to his starting point again



thus he would always be facing the wind.

Strix occidentalis

1.

Sequoia Nat. Park. See under Accipiter cooperi/velox, p. 30 for account of velox knocking one of these owls down, as told by Don Garrison.

Sturnella neglecta /

2/24/31 Los Banos Duck Refuge, Merced Co. Calif. For the last three weeks meadowlarks have been chasing each other back and forth over the flats. On some occasions one bird will take flight alone, and after weaving first in one direction and then in another gradually returns in a wide circle to the point from which it started. At these times one or both individuals utter a noise like beep, beep, beep, there being an interval of nearly a second between beeps. This noise so closely resembles the call of the avocet heard on the flats now I have been awaiting certain evidence that meadowlarks were nesting.

3/8/31 Salmon Slough, Los Banos D. Refuge, Los Banos. Calif. Nest with 4 eggs discovered by McLellan about 3 days ago. This nest is about 6 ft from a tractor and is right where the men continually pass with their work all the time. The meadowlark was observed to leave the nest if they

stepped within 3 or 4 feet of it but otherwise did not flush, after the first day or two of working there. On 3/8/31, I saw the 4 eggs but took no notes or photographs. Nest is in a slanting, sod grass filled hole in the ground. The nest is about 8 inches down and the sod grass growing around the ~~egge~~ edges of the hole as well as down into it roofs the eggs over so that they can hardly be seen.

3/14/31 Three birds had in down — no trace of fourth egg. These notes taken about three days after a rather heavy rain which lasted a day and a half. [rained 4 P.M. 3/11/31 to early A.M. of 3/12/31]. Adult ♂ flushed at 35 ft as I approached in my Ford, and flew straight away ~~eastward~~ across the meadows without a sound. It lit 100 yds away but I soon lost track of it. Three minutes later, while I was still in the Ford sitting still, the ♂ flew up, lit on a pile of boards 7 ft from the nest, and sang. He had

an insect in his mouth (could not see what kind) and sang without opening his beak - at least at the top. He craned his neck in my direction, walk about a few steps, sing, and then walk about again. After perhaps a minute of this he stopped singing, walked in almost a straight line to the nest, and disappeared into it. He remained inside about two minutes and then flew away, singing once shortly after he left. About 1 minute later the ♀ (recognizable by her much paler coloration (less rich yellow)) appeared (I didn't see from where) with what seemed to be a grass hopper in her bill. She too craned her neck in my direction, and walked about restlessly, but did not sing. After a minute of this she walked to the nest in a hesitating way, stopping to crane her neck every few steps and making a half circle in her travels - and then she also disappeared inside

3/16/31 One photo taken of young in nest by
1 Photo -

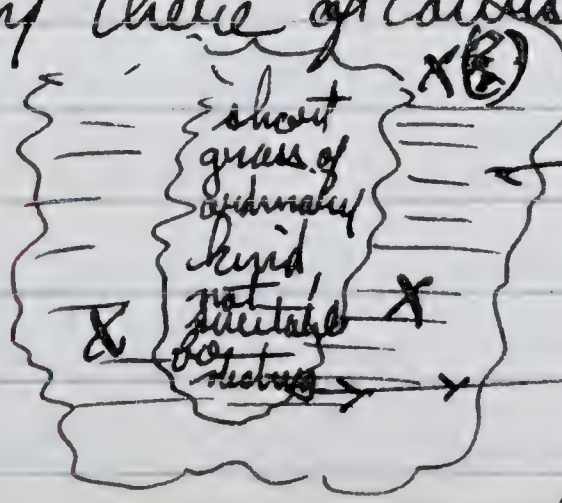
parting grass and tickling and poking young with straw to make them open their mouths. They are still in the stimulus-automatic reaction stage for they opened their mouths when my shadow fell across the opening as I first came there.

photo 3/17/31 2nd photo of external appearance of nest entrance, undisturbed taken

3/26/31 Delta Ranch, n.e. of L.B.D. Refuge. Bird flushed from nest containing six eggs = position in nest (gapes = small end)

in the rank spindly round-stemmed marsh grass. The grass had pushed up through and bunched up an old piece of cow dung, and the nest was surrounded and partly under the fragments. Photo

Photo. Another with 5 eggs found 125 ft away, this one being merely in a hollow, with no dung, the same grass being there of course.



Cheney says they nest commonly in such places. This marsh grass appears to be a Juncus or sedge. A bird flushed up 125 yds further, with alarm actions of other ♀, but we did not locate her nesting point close enough to find the nest (see X(?) on map on page 4).

4/20/31 L.B.D.R. by 2nd R-tail camp. A ♀ seen walking about on the dried mud flat of a former slough (Lindloss), now margined with a tall fringe of rushes but without water. The m. lark would walk about 15-20 ft picking up something every few feet and then flew across the flat to some other part of the rush margin and do the same thing. All the way she was dogged by a very large young — nearly as large as the ad — which continually uttered a high pitched metallic single note and for the most part kept only a few inches behind her. I did not see her feed it anything, and at times the young one crouched stop and forage for himself, climbing up over the rushes — but he kept up the piping noise under all circumstances. Later: the ♀ seen to pick up a large soft insect (?) and then laying it down again

kill it by poking and pecking it. the young was 25 ft away at the time, still calling. after it was quiet she picked it up, turned around, and walked rapidly toward the young. as ~~she~~ soon as she began to walk toward him, although I heard no sound from her, he ran toward beneath open beak and insistant cries, and received the morsel.

Pelmatodytes palustris
paludicola

6/1/31 Los Banos Duck Refuge, Los Banos, Merced Co. Calif. ~~W~~ Small cann-slough #1 to Salmon Slough. Nest containing 3 eggs found in a rather small and somewhat straggling (not dense, maybe that's why I found it) patch of cat tails. A fragmentary "dummy" nest was present about 6 ft away. No wren was seen or heard.

2 photos

Totanus melanoleucus
yellow legs.

1

7/23/30 Los Banos Game Refuge, Merced Co. Calif. S side. One bird flushed from water filled ditch.

7/24/30 L.B.G.R. 3 on Button Willow Pond.

9/20/30 " " overflow (slough - see under Pisolia) land from Salmon Slough. About 25. quite tame

3/14/31 L.B.D. Refuge, vicinity of Ruth Lake. Two seen high in air; calling

3/15/31 L.B.D.R. by 3 l. tower - individuals heard calling from the air, at intervals during the A.M.

4/3/31 L.B.D. Refuge. Must be height of migration for during the last week individuals have been heard and seen at all hours of the day.

5/21/31 L.B.D.R. Seem to have left; haven't heard any this month, I think.

Toxostoma rediviuum
sonnae

April 13, 1932. Alpine Creek Ranch, (Ralph Estate) San Mateo Co., Calif. In the experimental quail enclosure (designated as Q. 9.). Today I liberated two thrashers, caught in the quail traps, inside the newly completed Q. I.; hope they are of opposite sex; they were both caught in trap no 1.

April 20, 1932. Not much time has been spent watching the thrashers, but I have learned at least, that they are attracted by the grain used for trap bait (poultry scratch feed). They have not hesitated to come out upon the bare patch of ground directly in front of the observatory windows (where trap, and 2 species of clover were planted) and feed upon the scattered kernels of grain which I had thrown out of the window some time previously. I have not yet seen either bird drink.

Today I saw in striking manner the utility of that exaggerated beak. One of the birds was out in the open, on the patch of ground by the window, digging. He used it exactly as one

would use a pick, striking the ground with great vigor and ~~dug~~ sinking it into the soil, and then ~~continuing the motion as one would with the pick~~ no, not quite, pulling or dislodging clods of earth and sidewaysing them ~~back~~ from the hole. He did this on several occasions, excavating a hole about 1½" deep in one case when a big clod rolled out at one side of his bill. This clod was of heavy compact earth, much larger than the bird's head, and must have weighed about 40 grams. Apparently thrashers stir up the earth with their bills instead of scratching in it with their feet as do towhees — at least I have not yet seen the thrashers scratching.

Today during the cold windy weather the thrashers stood about in the brush, more or less motionless, just as the quail had been seen to do — in fact they were doing it at the same time (see under Lophortyx pp 90-91).

April 24, 1932 In describing the manner in which the thrashers excavate (this page, above), I should have

made it clear that ~~they~~ mostly pick with a side wise motion, rather than a forward → back motion as a man would do with a pick (I had not observed this clearly at first, also, I think it varies, as indicated below). Sometimes they do come straight down from high up ① ②, in which case they duplicate the motion of a pick, but for the most part there is a sidewise wrench of the bill immediately following the blow, this motion tending to roll the clod out to one side

Today I heard one of the Q. D. thrashers sing a few bars; he was down in the tangle on the E. side and sang neither very loudly nor very long, yet it was a song.

See page 113-114 under Lophortyx for an account of one of the quail feeding right beside a thrasher and actually elbowing him away from the pit which the thrasher had just dug.

Toxostoma rufum rufum 4.
sonnae

Assuredly the activities of thrashers must be given an importance almost equal to Grinnell's gophers when it comes to soil planing. I constantly see the birds inside the P.D. excavating with those prodigious beaks of theirs, not only in the D.F.P., but back in the brush as well. The D.F.P. was, when the thrashers were originally released inside, a smoothly naked expanse; now it is a mass from end to end with clods, most of them much larger than a golf ball, some of them in little groups, where the birds had concentrated their digging at certain spots (as at the bases of certain posts).

May 4, 1932. About four days ago I noticed that a thrasher from the outside came and perched on the top of the P.F., at the S. end, and also would run up and down just outside the fence on the S. side, one of the P.D. thrashers, meanwhile, trying

continually to get out at that side. This morning, about 7 A.M. the same thing occurred, and the G.G. thrashers seeming to be much excited; once, when the outside thrasher flew along the top of the G.G., just above it, the G.G. thrasher flew along underneath right with it. Presumably the visitor is of opposite sex; whether or not the two thrashers inside the G.G. are of the same or opposite sex cannot be judged, so far, from their actions; they neither fight nor court, neither hang together nor shun each other, but seem quite indifferent to each others presence.

One of them sang a few bars this morning, also.

Thrashers are very fond of grain, as shown by the following:

1. The numbers I have trapped in grain traps baited with grain
2. The continual presence of one or both thrashers on the I.F.P. (= feedpatch inside

the Q.9.) just in front of the window, where I have been throwing the grain. I have watched them eat it scores of times.

③. Two thrashers were observed by Carl, who is doing some garden work for Buster McLellan, to dig up and eat the kernels of the newly sprouted corn which he had planted. For several days prior to the time when he actually observed them stealing it he had noticed that something was getting it, and had laged the blame on rabbits. Then one morning, while he was standing in the garden, he saw a thrasher come out of the brush and commence to dig down and pull up the sprouting corn and eat off the the kernel disregarding the green leaves which had sprouted from it. He shot this one, and another, replanted about three rows of corn which had been destroyed,

Zonotrichia melodia
zonotrichia

and has had no more trouble since.

The long hard kernels of whole corn which I had thrown out into the G.G. to see if they would be eaten by quail (they were not; see under Zonotrichia) attracted the thrashers but gave them considerable trouble in eating. They were large, hard, reddish yellow grains and (were too big to swallow whole. The thrashers would pick them up, work them about in their bills, then drop them again and proceed to hammer them with their bills. Usually this hammering had no effect, however, and after ~~a~~ one or more trials the bird would move on and try another, or else find some other kind of grain. Occasionally, I think, the birds would manage to crack a kernel, and would then swallow it; they may have at last swallowed some of them whole, although I never actually saw them do

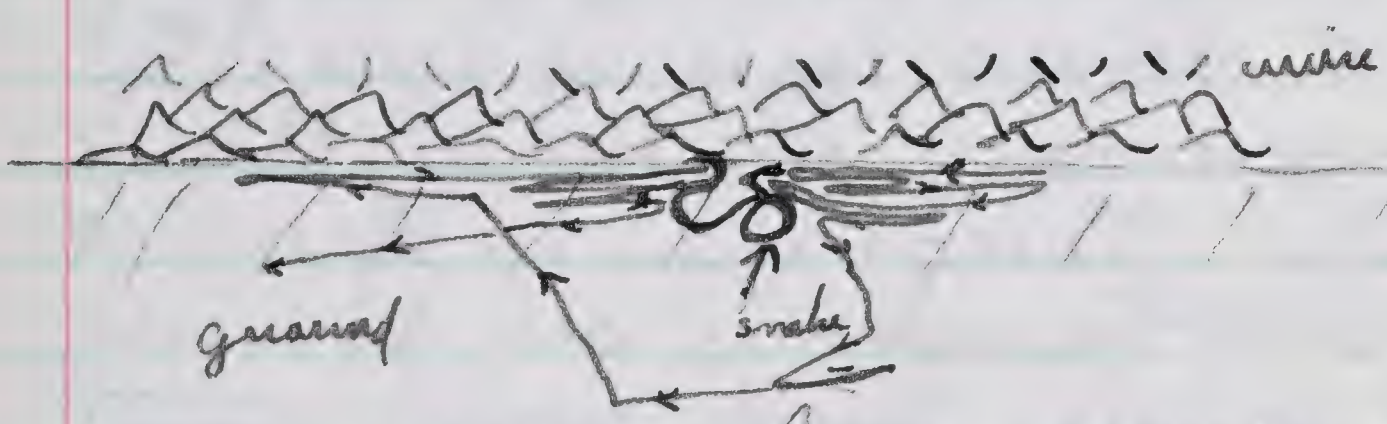
this. Gordon Prine says the one of them swallow a good sized kernel, and I have many times seen them swallow cracked pieces. There was a period of dampness, with several slight rains, and this probably softened the grains some; at any rate they are now all gone (see under Loxia curvirostra for date of putting out), and am sure that no other birds took any; also I doubt if many, if any, were taken by mice.

May 8. The outside thrasher still tries, futilely, to conduct an among through "poultry mesh." That is, he alights on top the G.S., walks about restlessly, flies down in a moment to the ground and runs back and forth at the base of the cage trying to get in. Meanwhile the G.S. Juliet does her (its? his?) best to get out, keeping opposite the outside bird, and climbing up on the brush that lines the fence, seeking to get

out.

While I was watching these (sathetic) antics something happened which made me wonder whether or not birds really are afraid of snakes, and disturbing as their screaming tell us, as the books have it, except when the snakes are actually attacking their nests. A moderate sized garter snake (Thamnophis ordinoides ?) was lying half coiled, half sprawled, in the sun at the base of the cypre pight where the thrashes thrashes was parading up and down. He was partly touching the wire so that the thrashes couldnt squeeze in between him and it - motionless, as snakes are so often, but very visible nevertheless, as he was not concealed by the vegetation at all. I feel almost certain that had the snake been a (stuffed) one the thrashes would have noticed him immediately, but as it was I saw no sign of recognition on the part of

the bird, let alone distress. The only thing that gave any evidence that the bird and the snake was that he never actually crawled on the reptile. He would pace up and down along the line on one side as far as the snake, then, shifting his aylmuthes, do the same on the other side of the snake



arrow shows movements of thrasher. Each time, at his closest approach, he would be within three inches of the snake, yet although he never actually trod upon it he never looked at it or gave any sign that he saw it, devoting his whole attention to pecking at the ants. The thrasher on the other side of the circle, coming several

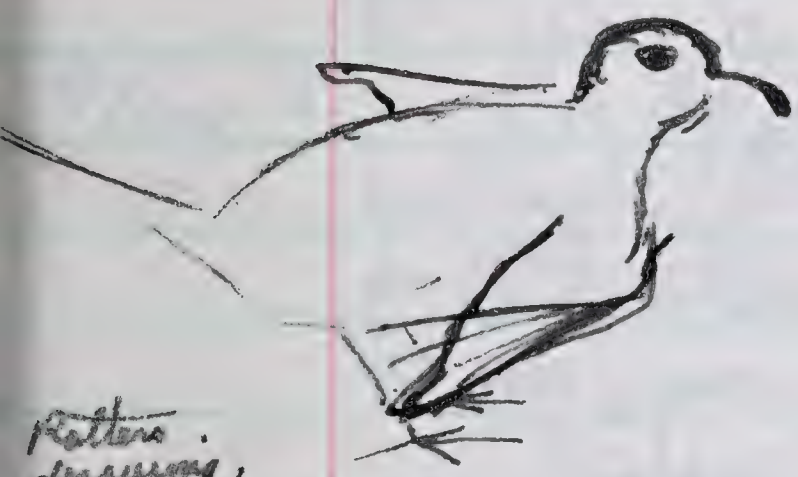
things within a foot of the snake, showed a like disregard of it.

About five feet away was another snake. This one made an excursion of seven or eight feet along the base of the mine, moving with that slow stealthy deliberate forward slide (not the wriggle) which is characteristic of snakes when they are at ease. Although he was visible to the birds when he was moving, as well as when quiet, he, too, provoked no demonstration from them. Some quail, feeding near by, also paid no apparent attention to the snakes.

The spitter on the outside, at times when he was walking up and down would flick his wings out half open in a jerky spasmodic manner, and immediately close them again. And this repeat. This is a motion which I have many times seen mocking birds go through, on

Toxostoma redivivum sonomae

Lawns in Southern California. In the case of the mocking bird, at the instant of (semi-) extension, the white patch flashes out from the gray of the folded wing, producing a magic prestidigitatorial effect. In the thrasher there was no white to flash; nevertheless he went through the same motions.



Rather drawing, though.

May 10. The quail egg which played in the D.F.P., right by a post where the thrashers commonly dig, on May 8 (see Lophortyx p. 149) is still there intact. Thrashers can live without eggs very nicely, it seems.

There is a clod as big as a base ball out in the D.F.P. now, which was rooted up by the thrashers. It must be as heavy as a baseball, too.

Toxostoma redivivum
sonorum

Later – it weighs 494.4 grams; dry!
Three others also weighed were: 330.6, 330.7, 377.0

May 11. There were two thrashers on the outside of the P.D. this morning, about 5:30, and such a hubub as they did make when they sat about on top of the P.D. and pecked the wires with their bills; it was a regular frantic drumming!

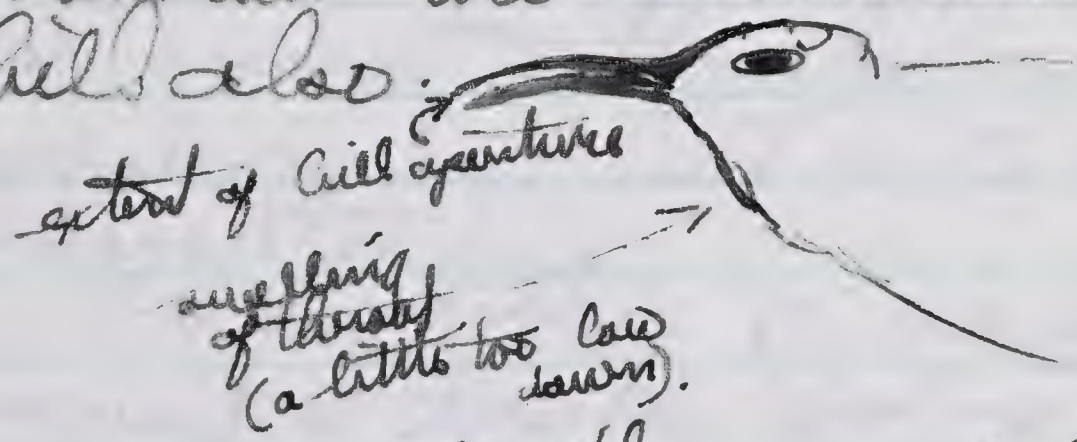
May 15 On May 13 I caught one of the outside thrashers and removed him to Strawberry Canyon, Berkeley Cal. 40 mi, air line, across the Bay.

Today there was at least one more thrasher still around, trying to get in.

One of the P.D. thrashers still sings at intervals. The song is mild and varied, as I have mentioned earlier – in fact I had to look at the wires today to make sure that it was not some extraordinary conjunctive ~~it was~~ a mockingbird. The bird agreed to speak only a little during all the various parts of its

Oporornis agilis
sonorae.

song; indeed it was hard to see its bill move, at times, even with x12s at 50 feet. I could see its throat swell and outside quite distinctly at times, though, and sometimes could make out the movements of its bill also.



To date the quail egg is still untouched.

During this birds song I heard the ~~pig~~ squip, squip (or chink, chink, Hoff mann) of the willow woodpecker imitated to perfection, also the squill, squill of the Calif Quail. The squill was somewhat less in volume than the noise which a quail would make, but was otherwise an excellent imitation. Listening carefully I heard both of these imitations given again during the course of the birds' song, so had a good chance to check their quality carefully.

Porzana carolina

There was another note which sounded (I think) like the dee of a goldfinch, and some little short chirrups that might have resembled a thrush's call, but I wasn't paying very strict attention at the time.

See under Lophortyx p. 16 for account of thrashers eating whole barley, but with some difficulty.

See Lophortyx p. 169 for account of thrashers feeding after quail had gone to roost. At 7:27 he left the S.F.P. and flew to the E. side where he gave his quitt, quitt, alarm call a half dozen times, and was neither heard nor seen again.

June 13, 1932. Thrashers in Q.S. I don't see much of the thrashers these days; for all I know one of them might be sitting on eggs. One of them does have a worn, mussed-up appearance around the belly resembling a "broad patch". Every now and then I see one of the birds flying, or hopping back and forth

excitedly along the fence wire accompanied by a bird from the outside, so I am not sure even yet whether the Q.T. birds are of opposite sex or not. One at least, sings quite frequently, and I have never heard more than the one at any one time.

The birds do not seem to eat vegetable materials or the succulent sort, such as grass leaves or other plant (dicot.) leaves as do the quail — at least I have never seen them do so. Instead, whenever I have seen them feeding it has been by (1) pick axe ing the ground as usual, or (2) by picking up small grains (of experimental food plants thrown out by me), or by (3) hammering larger grains, such as oats for example, in an endeavor to break them up into sizes small enough to swallow. In the case of the oats, I have yet seen a thrasher swallow one, or swallow it, but the vigorous hammering (blows delivered from

the limbs full height or straight downward) makes a loud thumping, resounding noise.

July 18, 1932. Afp. Q. Ranch, Cry Lake: Here's what looks like an example of the limitations placed upon a bird by its structure and instincts (more especially instincts, I should guess, in this case): E. says that at the plum tree where she is accustomed to shoot jays, the thrashers come and feed on the fruit, but only what is on the ground. The jays and grosbeaks — & tree perchers — help themselves to what is in the tree as well as what is on the ground.

July 20 — I never see more than one thrasher at a time inside the Q.G. any more; haven't for some weeks. Today one of them was panting with beak open, in the sun near the R.C.P. quail who was also panting (temp 89°F in shade; probably over 100 in sun).

Photo July 23 — Q.G. thrasher photographed drinking. I have seen the (R.C.P.) thrasher drink more than once, during recent days.

Toxostoma redivivum
sonnae

Sept 6, 1932. Alp. Creek Ranch. Under date of (about) Aug 17, Lophortyx c. californica. I have described the drying up of the water fountain inside the Q.I., it having been completely dry for a day or two at least, and perhaps longer. From that time to this I have never seen the Q.I. thrashers, and I believe that the absence of water must have killed them, even though it did not kill the quail.

January 8, 1933. Alp. C.R. See under Lophortyx, p. 452, 453 for mention of thrashers singing on warm bright days in mid-(or early-) winter just as they do in spring.

March 18, 1933. Turned another thrasher into the Q.I., since the others were never seen again. There has been no water inside the Q.I. since Feb 28, yet the thrasher, like the golden crowned sp. (Zonotrichia coronata, p. 2) seems not to need any at this time of year.

March 21, 1933. A thrasher, hopping about on top the Q.I., trying to reach the

are inside, paid no attention to a recently killed quail which lay within a few inches of his path.

Mar 29, 1933. Just as last year, there has been for several days an attendant sentry thrasher trying to get into the Q.S. Today I caught him, under the house, banded him — 592722 — and turned him loose inside the Q.S.

June 21, 1933 - The unbanded thrasher inside the Q.S. was seen to carry grain off into the tall grass and woods making several trips from the J.F.B. and always going into the grass at the same place. It would pick up not one, but several grains, one after another, holding them all up in its bill at one time, and then stuffing it's head, would run to the opening in the grass and disappear. The action looks like the feeding of young, but they must be large young to eat grain.

June 27, 1933 The thrashers have two young! ~~Sam~~ They are fully fledged (short tail however), and able to fly, but they

Toxostoma redivivum

bills are conspicuously somewhat shorter and straighter than those of the adults. The adults feed them assiduously in the early morning (6:30-7:30 A.M., for example), carrying what appears to be white sprouts of grain (scratch feed) and ~~other~~ similar bits of vegetation which they get by digging, and making trip after trip. Once I saw one of the old ones bring a whitish grub-like larva, possibly of a beetle, to one of the young.

These young have never yet had free water; the adults have had none since Jan 31 (see Lophortyx for details).

July 1 (?) 1933 Noticed down at the junction of the Los Prietos and the main ranch roads a young thrasher in the brush. His tail and bill were both markedly shorter than those of the adults, the bill being less curved, also.

July 7, 1933. Trapped a young thrasher similar to the above, along with an adult in the same compartment. The two weighed within .1 gram of the same (!) the

adult bird being in poor condition and moulting heavily. From all these indications I believe that thrashers in this locality must nest late (or else raise two broods). The fact that my first (this year) Q.J. thrasher attracted a mate (which I caught and put in with it) at the time that it did (see ante), substantiates this idea.

July 2, 1933 — Q.J.

7:30 A.M. Both thrashers are feeding their (two?) young. The red banded one seems to be the ♂; it flies at outside thrashers which perhaps the Q.J. cries more than the other adult does, although I have seen the other one do this one, too. The red-banded one chip-chipped for a long time, answering an outside thrasher which was making the same noise — this may have been done out of hostility, and is a further indication that the red thrasher is the ♂.

July 3, 1933 — Today I placed two thrashers, an adult and its fully fledged (or at least equally heavy) young, into the N.Q.D.

in which two quail had recently died, in order to see if the thrashers would also die. One of these thrashers had a large tick on its neck - higher up than it could reach with its bill, although it could undoubtedly scratch that region with its foot.

July 9, 1933. Today I found both thrashers dead in the N.Q.9. I suspect that food shortage rather than water has killed these birds, this pen not having much edible food, although much rough herbage.

July 15 - The ~~two~~ thrashers in the main Q.9. have three young, not two, as I had thought.

3/18/30 Tyrannus cassini

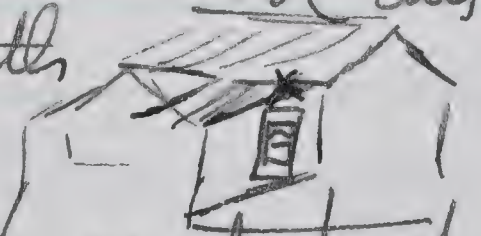
Jamul Ranch, San Diego Co. Calif. Bird perched on weed stalk observed to cock his eye and point his beak straight up, looking at the sky. About 200 yds or more straight over head a western martin (D. D. McLean's identification) was flying, hardly more than a speck in the sky.

Pyrrhuloxia sinuata

5/28/30. Mud Slough, Los Banos Bird Refuge, Merced Co. Nest with 5 eggs, birds very tame, sitting on nest while we were moving about within 20 ft. (Movie pictures by E. S. Cheney). At one time when ♀ removed off nest in branches below, evening, the ♂ came up with much calling and settled down to incubate, remaining until I scared him off. Nest of Icterus bullockii 4½ ft. away but no function discernible.

4/2/31 L. B. D. Ref. Mud Slough. One heard in evening when frightened out of its roosting tree. Unlike many birds in such a predicament it stayed in the vicinity somewhere and vociferated, showing its usual daunttless character.

5/30/31 L. B. D. R. at main shacks. There is a nest with 4 incubated eggs in a little corner formed by two adjoining roofs of different heights – only 3 ft above the heads of the men who constantly pass in and out of the shacks beneath.



The bird was not heard to protest during the short moment that I "shinned" my self up to look over its edge.

6/3/31 L. B. D. R. by 1st Bitter nut. One chased a black crowned night heron flying 14" above the middle of its back,

perhaps even momentarily perching there - it is hard to be sure in all such cases.

6/8/31 Nest by shack (see p. 1). Nest deserted, part of lining (string & auto seat fragments) scattered; no trace of old birds or eggs. There was a fragmentary pellet made of insect chitinous fragments on the edge of the nest. Didn't look as firm or well shaped as some of the surrounding owl pellets I have seen. Was it shrike?? Had it any connection? Such a nesting place, one would have thought would be exceptionally safe.

Tyto alba pratincola

~~Asio pratincola~~

2/16/30 Marysville Buttes, Sutter Co. Calif.
5:45 A.M. Bird heard calling on two different occasions, one over dry grassy bottom land and one among cliffs of rugged hillside.

1/31/31 About 15 mi from Los Banos on Dos Pass road, Merced Co. Calif. Seen hanging on fence. Los Banos Duck Refuge 7:18 P.M. Heard to scream once over head (dark for an hour).

3/9/31 Kaufmann Ranch on Mud Slough just north of the Los Banos Duck Refuge Los Banos, Merced Co. Calif. A hollow willow stub leaning over water. Nest was 3 ft back from entrance containing 3 eggs, 5 young, posterior half of a Dipodomys, 2 blackbird feathers. Stub is one of three comprising a very old willow. Most of tree is still alive. Both birds flushed from nest. This is almost certainly the bird responsible for the cries heard earlier (see ~~cases~~ above). This material saved.

4/5/31 L. B. D. Refuge, Kaufman Ranch — Same place as above. Birds (8 of them) given bands nos 320782-89 incl. Nest contents were one 1/2 grown

pocket gopher and numerous p. gopher skulls, also pellets.

4/27/31 Same nest as above. No adults and no live birds around. Something has caused the death of at least two or three of the young for I can see the dried up bunches of feathers representing that many, in the back of the cavity. The tree was swarming with ants (!?) whatever that may mean (they were quite bad on ground - and to some extent in the tree - last time) so that I am not going to make out the remains unaided this time. The plumage which I see in the hole represents fully fledged young.

6/1/31 L.B.J.R. 300 yds s. of 2nd Butte Canyon by a slough, 9 P.M. (dark - no moon). ~~What I feel positive (it was) must have been~~ One of these birds - I was only 20 ft away with my 12 volt flashlight trained on it - I said just for about 5 seconds as it rose from the marsh, at my approach and flapped upwind, low near the ground, northward out of sight. Its claws was dangling what I feel positive was a bicolored

reducing, for the space of 2 seconds (about) I had it full in the light of my 1200 ft beam flashlight at 30 ft.

(cont. on page 4)

Tyto alba
~~Asio~~ pratincola

October 16, 1933 Mills College, Oakland, Calif. Herewith a late nesting record of the barn owl: A barn owl youngster barely on the wing, and still covered on body and legs with a dense coating of the woolly 2nd generation of down, was found by students, roosting in a shady tree by the Science Building. By shouting and clapping hands, Zoology Dept. members frightened it so that it took wing. It flew away several hundred yards, but in a weak, blundering manner, and finally, losing its foothold as it was about to alight about 50 feet up in another tree, it tumbled all the way to the ground and was captured. This bird must certainly (judging from incomplete development, and from physical inefficiency) have had to depend upon its parents for care for at least two more weeks.

Nov. 11, 1933. See Accipiter cooperii, p. 27, for account by Chas. J. Hayes of probable killing of quail by barn owls.

Dec. 18, 1933. See under Lophortyx, p. 636

for account of barn owl eating quail. Smith's identification may have been based on inference, not sight, but this is doubtful.

Vermivora [illegible] 1.

May 18, 1932. Alpine Creek Ranch (= Ralph Estate), San Mateo Co., Calif. Wooded, brush-choked western rim of Las Trancas Canyon. As I was passing beneath the dense shady canopy of trees which covered the entire slope in this region, a Lawrence's flitted furtively from the ground about six feet in front of me, and stopped in a nearby tree, where it began to chip anxiously, in a thin small voice. From where it had jumped up I discovered a nest with three eggs (only red-speckled) hidden partly beneath some low straggling weeds and partly under the dead blackoak leaves which formed a large carpet over the ground. On shooting the bird (for identification) I found a "papery-shelled" (no lime at all as yet, just a pink colored membrane) egg in the oviduct, making the fourth egg of the set.

Vireo gilva swainsoni /

Western Warbling Vireo

4/5/30 Strawberry Canyon, Berkeley, Calif. One heard singing for about 1 minute in top of tall Calif Laurel; then it flew off. "Little bird with a big voice". Heard singing about 100 yds away. Song rapid, lively, uttered all in one breath Te dee' de deedle da de'.

Vireo huttoni

4/5/30. Strawberry Canyon, Berkeley, Calif. One heard singing in Calif. Laurel. Song is a very monotonous, constantly reiterated single chiep, chiep, chiep, etc etc. This species only Vireo resident throughout year. Grinnell says this vireo should be laying eggs about now - i.e. height of laying season.

Wilsonia pusilla chryseola

Golden Pileolated Warbler

4/5/30 Strawberry Canyon, Berkeley, Calif. 1/2 way up canyon. Chep, chep, chep-chep-chep-chep-chep. A series of thin chirping notes uttered in increasingly rapid succession. Grinnell says they are just appearing on the scene. Whole head moved when bird sang. Sings fairly continuously singing from various heights and from different trees and shrubs within radius of about 150 ft. Moves about almost constantly. Abundant and in full song.

X anthocephalus ~~xanthocephalus~~,

4/21/31 Los Banos Duck Refuge, Los Banos, Merced Co. Calif. By Salmon Slough. ♂ seen in tall grass a few feet from the water; no others seen at the time. First one seen so far at the Refuge by me.

4/28/31 L.B.D. Refuge - Vicinity 3 l. tower. One heard during the course of the day several times

4/29/31 Same place. Bird seen as well as heard; may be preparing to breed

5/8/31 Vicinity 3 l. tower. Evidences of breeding are that a ♂ Xantho chased a ♂ A. bicolor away from a place.

5/9/31 L.B.D.R. Salmon Slough floodlands 1 nest with 4 eggs.

6/6/31 L.B.D.R. I have seen no more of these since about 5/23/31, and suppose that since they have finished nesting they have left for other parts.

6/8/31 L.B.D.R. by Olson Point. I did see one, chasing a bicolored redwing(?) (Current previous note.).

Zenaidura m. marginella

3/17/31 (See censuses about 1 wk earlier also.) Los Banos Duck Refuge, Los Banos, Merced Co. Calif. Mud Slough n. of main e. & w. rd. A pair flushed from a willow and flew off together. Two birds perhaps these same, have been seen along this section of the slough for ten days or more.

Zonotrichia ~~leucophrys~~ coronata /

9/21/31 Alpine Creek Ranch, San Mateo Co., Calif. Cornfield - 77 m. One immature seen in bushes at distance of about 10 ft.

10/1/31 A.C.R. Birds heard singing in numbers; ~~they sounded a lot like gambeli, and I suppose were up mutallis, although I am not familiar with the song of this sp.~~

1932 Nov 30 - Look up under Lophortyx c. californica for dates two or three days before this, and also after, for notes on the water consumption, and bathing of a golden crown inside the Q.D.

Dec. 4, 1932. See Lophortyx p. 425 for another mention of bathing.

Dec 25, 1932. See Lophortyx p. 439 for account of the same bird trying to eat sunflower seeds. He would perch on the sunflower head and reach around underneath, but with less agility than a goldfinch. The seeds he did not swallow whole, they were too big for that but bit and chewed them until he had extracted the soft central part.

March 19, 1933. The same bird (doubtless) is still inside the quail inclosure. Since

Feb. 28 there has been no water for him to drink (quail water experiment, p. 501, Lophortyx), yet he appears to be entirely normal.

March 30, 1933. What a number of birds this date (also 3/31/33, 4/1/33) to find out if any of them were getting any seeds at this late date, the presumption being that quail, sparrows, and other seed eaters are subsisting chiefly on succulent vegetable tips instead of on the nearly exhausted seed supply.

The data follows

Species	Date	Wt.	Hour	Sex	Stomach contents
Spotted towhee	3/30/33	40.4	near noon	♂	9 insect remains; vegetable remains
Junco o. pinosus	"	—	—	♂	Insect rem., veg. rem.; a few small seeds
Fox sparrow	"	—	—	♂	Veg. fragments; a few small seeds
Junco o. pinosus	"	—	—	—	as above. The seeds are the same kind in each case
" " "		—	—	—	Veg. frag. a few seeds
Brown towhee	3/31/33	56.3	near noon	♀	Veg. frag; quite a number of seeds
Golden Cr. Spar.	"	—	—	♂(?)	Veg. frag; one or two seeds
Brown towhee	"	62.2	near noon	♂	Veg. frag; insect rem; a few seeds
Golden Cr. Spar.	"	—	—	—	Veg. frag.
Brown towhee	"	55.9	near noon	♀	Veg. frag, one or two seeds
" " "		56.5	" "	♂	Veg. frag; a few seeds
Golden Cr. Spar	"	—	—	—	Veg. frag.
" " "	4/1/33	—	—	♂	Veg. frag, insect rem.

Zonotrichia coronata

Species	Date	Wt.	Hour	Sex	Stomach contents
Spotted towhee	4/1/33	—	—	♂	Veg. frag.
Golden Cr.-Spar	"	—	—	—	Veg. frag.
" " " "		—	—	♀	Veg. frag.
" " " "		—	—	♂	Veg. frag.
" " " "		—	—	—	Veg. frag.
" " " "		—	—	—	Veg. frag.
Brown towhee		61.0	1:30 p.m.	♂	Veg. frag.; insect larv.; several seeds
" "		56.9	"	♂	Veg. frag.; 1 or 2 seeds

From the above it will be seen that:

(1) Seeds figure in the diet of the seed eating birds even at this late date, but to only a small extent.

(2) Golden crowns apparently eat less seeds than the other species.

May 8, 1933. The sparrow that had got into the P.O. (see Antea), and which had lived in good health without free water since Feb. 28, was found killed by a mouse trap (see under Lophortyx, p. 533).

Sept 30, 1933 Alp. G. Ranch. See Lophortyx, p. 616, for note of first arrival of these this fall.